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Standardization

In This Issue

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Some 2000 industrial concerns hold membership either directly or by group arrangement through their respective trade associations

Readers Write

Alaska Asks for Safety Standards

Territorial Department of Labor
Juneau, Alaska

Gentlemen: The Territorial Department of Labor is now engaged in formulating a "safety code" for industries in Alaska. In developing these codes, which incidentally are the first, our primary interest is a basic code to meet the peculiar conditions of Alaskan industries. In formulating these codes we are relying upon your standards.

The three principal industries are mining, fish processing by canning and refrigeration, and logging and sawmills. In addition to these industries we have, of course, a wide variety of service industries.

I have at hand your bulletin PM87, which gives an index of approved standards as well as an index of standards under development. Assuming that this bulletin is fairly recent, I am listing the standards which we shall appreciate having made available to the department at your early convenience.

HENRY A. BENSON
Commissioner of Labor

Need Standards for Motor Assembly Plant

J. I. Case Company
Rock Island, Illinois

Gentlemen: We are constructing a motor assembly plant and we would like to have all the information available which would enable us to have an efficient and safe set up. We are particularly interested in dynamometer motor test stations and also in the storing of gasoline, pyrene, and natural gas for fueling the motors on the test block.

RAY ROWLEY
Safety Supervisor

• • Since there are no American Standards for storage of gasoline, pyrene, or natural gas, Mr Rowley was referred to the National Safety Council and the American Petroleum Institute for information on this subject. A list of Americans Standards and the pamphlet describing American Safety Standards were sent to him for selection of standards that might be useful in the design and construction of his new assembly plant.

Our Front Cover

Electrotinning a line of strip steel for the container industry. This "pay-off" loop feeds the line ahead while a fresh coil of steel is being welded to the trailing end of the strip.

Courtesy du Pont Company.

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In This Issue

April, 1947 Ruth E. Mason, Editor 35 Cents

The American Standards Association is a federation of national groups dealing with standardization. Through it, government, industry, labor, and the consumer work together to develop mutually satisfactory national standards. It acts as the authoritative channel for international cooperation in standardization work.

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A. Devaney, Inc, N.Y.

A punch press in operation on thin flat metal is shown above in the manufacture of a refrigerator cabinet part at the Richmond plant of the Crosley Corporation.

use of *Standard Thicknesses* for Sheet Metal Helps Reduce Inventories

By F. W. Hottenroth

Chief Engineer, Penn Electric Switch Company

Electric Switch Company finds use of American Standard Preferred Thicknesses for Uncoated Thin Flat Metals valuable aid in cutting down inventories and eliminating unnecessary changes on drawings, dies, tools

LO, the poor designer! When he reaches the point of specifying the thickness of material on a drawing, he is up against a major problem. Consider a part which should be approximately 1/16 in. thick. The designer decides to make the part from steel, so he plans to show on the drawing 0.065. The books indicate that this is the standard thickness of steel if it is purchased as strip stock. However, the Purchasing Department may prefer to buy this particular material as sheet stock, in which case, instead of being 0.065, it should appear on the drawing as 0.060. Then he decides that the part should be corrosion resistant and he changes the drawing from steel to brass. The standard thickness for brass is 0.064. The change may not make too great a difference on this one part but it may make an appreciable difference in the many other parts that have to match the dimensions of the piece under consideration; so these parts are now changed in conformance. At some later date, it may be necessary to change to some other material and again it will probably be necessary to change the thickness of the part to match the established thicknesses which have been specified in the past for that material. Now the part may be in production and not only the drawings but the dies and other tools may require changing.

Various Gages Give Different Values for Same Specification

Looking at the actual figures, we find that strip steel has been furnished in Birmingham or Stubs' gage which in the 1/16 in. size would be 0.065. Brass or aluminum has been furnished in the Brown & Sharpe gage which would be furnished as 0.064. Sheet steel has been furnished in the United States Standard gage which has been furnished as 0.060. These values around 1/16 in. are merely taken as typical examples of the discrepancy between the standards for the various materials. These discrepancies exist in practically every thickness.

American Standard Thicknesses Aid Designers and Engineers

The designer who has a problem of this nature often finds himself with two alternatives. One is to continue to struggle to obtain the best possible solution; and the other is to decide not to make a punching but to die cast the piece and then be able to disregard the thickness of material. Most engineers have been handicapped by this situation. Finally something has been done about it. The American Standards Association several years ago issued American Standard Preferred Thicknesses for Uncoated Thin Flat Metals (Under 0.250 In.), B32.1-1941, which covers the standard thicknesses for all thin metals from values of a few thousandths up to a quarter of an inch.

This standard is not new, having been originally issued shortly before the war, but unfortunately, probably as a result of the war, it has not received the attention it certainly deserves. The new standard thicknesses are based on the American Standard preferred numbers covered by American Standard Preferred Numbers, Z17.1-1936. As most readers of this article know, these standards are based on the series of numbers in geometric series starting with ten and increasing in approximately 60 percent steps. The basic numbers are 10, 16, 25, 40, and 63. These numbers are the foundation of the American Standard for thicknesses of thin metals.

Originally, the manufacturers had no guidance in setting up their standards of thicknesses except standards which had been set up by individual groups whose work was not coordinated at that time by the American Standards Association. This resulted in the existing discrepancies. Now, however, the manufacturers have done their part and have agreed to the American Standard. In order to utilize these standard thicknesses to the best advantage, it is essential that the users of the materials cooperate by changing their drawings in the immediate future to specify the material thicknesses as covered by American Standard B32.1-1941.

The acceptance of this standard by industry in general will entirely eliminate the confusion of the past. The engineer will have no difficulty in choosing the correct thickness for his drawing regardless of the material chosen, since all materials follow the same standard. If it becomes necessary to change a part from one ma-

terial to another, it will be unnecessary to change the thickness on the drawing or to change the mating parts to conform. This is real progress.

There is a second problem in the choice of thickness of material which deserves consideration. Some time ago our company was faced with the problem of establishing standard thicknesses in order to reduce the unnecessarily large inventory from the great variety of thicknesses which were called for on drawings. These thicknesses were in many cases specialized values so that between the thickness of 0.016 and the thickness of 1/8 in., 41 different thicknesses of steel were required to take care of drawing requirements. It hardly seems possible that such a condition could exist but, as has happened in many other plants, drawings were often made on the basis of a micrometer measurement of a sample by the draftsman. This condition, of course, will be likely to exist if no standards are set up for thicknesses in the particular plant.

Table of Preferred Thicknesses Adopted for Company's Needs

In setting up standard thicknesses for our own use, it was decided to plan for the future and to make our company standards the standards of the future as established by American Standard B32.1-1941. It was realized that this would be a hardship at first since the standard has not been accepted and put in practice to any great extent. As more engineers realize that the standard exists, the trend will be towards this standard and away from the old standards which have caused so much difficulty and confusion. Therefore, a table of preferred thicknesses of metals was outlined and included on all of our material specifications.

Referring to this table, it will be noted that between the values of 0.006 and 0.250 there are only nine primary thickness values. These nine values are supplemented by eight secondary values in case it is necessary to use a thickness which is not included on the primary list.

This system has now been in operation for approximately a year and has worked out well. The most common thicknesses of all materials used on small electrical devices are in the range of thickness from 0.025 to 0.063. It is surprising to note how large a percentage of drawings specify either 0.025, 0.040, or 0.063.

Preferred Thickness of Metal (sheet and strip):

*Primary**	*Secondary*
0.006	0.008
0.010	0.012
0.016	0.020
0.025	0.032
0.040	0.050
0.063	0.080
0.100	0.125
0.160	0.200
0.250	

* A note below this table reads as follows:

"Primary sizes will hereafter be considered standard thicknesses for design purposes. Any thickness other than primary shall not be used unless written approval for an 'off' standard size is obtained from the Chief Engineer. In such case it is highly desirable that a secondary size be chosen. These sizes are American Standard preferred thicknesses. American Standard B32.1-1941."

Inasmuch as the identical thickness chart is now specified for brass, aluminum, or stainless steel, as well as ordinary steel, reasonable inventories of all common materials can be stocked in these thicknesses. Furthermore, it becomes easier to make a substitution in case of shortage of one of the materials since the other materials will be available in the correct thicknesses.

In spite of the fact that changing from the old values on drawings to the new standard thicknesses has required additional work on the part of the factory, stock room, inspection, production, and purchasing departments, the change to the new standards has been very well received. As more individuals become accustomed to the use of these standard thicknesses and as the standard grows in popularity, it can be expected that the use of materials of these standard thicknesses will increase and will make it more and more difficult in the future to obtain thicknesses which differ from the American Standard. At the same time there will be many advantages if engineers throughout the country will also standardize on these primary and secondary thicknesses and reduce the number of common standard thicknesses used throughout the country to match these preferred values. At first it may appear to be a hardship for a designer to use the primary thicknesses or, in case of necessity, to use the secondary values. However, after he becomes accustomed to using the standard thicknesses he will find that it is a great deal easier from the design standpoint because decisions can be made more quickly in the choice of the proper thickness. Any slight discrepancy from a desired thickness may generally be matched by a slight change in the width of the piece.

Further advantages of this standardization will be realized if at any time in the future subcontracting becomes necessary as it was during the past war. At that time various manufacturers who had material of special thicknesses on hand were unable to use these thicknesses of material for the items they were selected to build because their standards did not agree with the standards of the prime contractor. Standardization in accordance with the American Standard values, and preferably in accordance with the primary and secondary thicknesses given herein, should simplify this condition and make the procurement of standard stocks easier and quicker.

A change to new standards always causes difficulties but the longer we put off changing to the new standards the more difficulties we encounter when we really do wish to change. It is quite often best to take the bull by the horns when he is young and small than when he has grown old and tough.

Markwardt Active in Forest Products Research

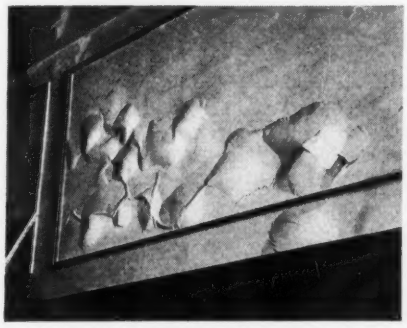
L. J. Markwardt, U.S. Department of Agriculture, Forest Service, and chairman of the ASA Sectional Committee on Methods of Testing Wood, O4, has been instrumental in helping to organize the newly founded Forest Products Research Society. This group has been established to cover "the fields of research, development, production, or utilization of forest products by facilitating the interchange of information, abstracting results, publishing information, encouraging cooperation, providing test methods and procedures, sponsoring meetings, and, in general, encouraging and promoting the efficient utilization of wood and other forest products."

New Plaster and Stucco Standards To Prevent Failures

By J. W. McBurney

ON September 26, 1946, the American Standards Association approved the following three standards prepared by Sectional Committee A42 on Plastering:

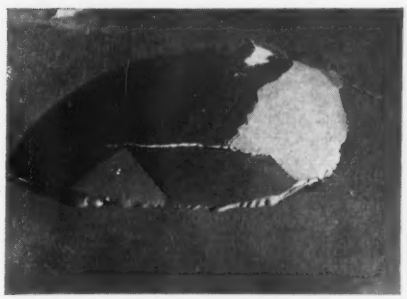
1. Standard specifications for gypsum plastering, including requirements for lathing and furring
2. Standard specifications for portland cement stucco
3. Standard specifications for portland cement plastering.



Bulging of plastering resulting from expansion of white coat.

The gypsum plastering standard represents a complete revision of the 1938 standard and includes much new material. Among the changes are (1) the omission of obsolete types and weights of metal lath and the substitution of new types and weights that have appeared subsequent to 1938; (2) the recognition of "studless partitions" which are a recent development in plastering; and (3) the restriction of the lime used in finish coats to those containing not more than 8 percent of unhydrated oxide.

The purpose of this restriction on the types of lime permitted for use in the finish or white coat is to prevent the type of failure illustrated in the accompanying pictures. These failures resulted from delayed expansion of the finish coat with consequent formation of large blisters and bulges involving separation of the finish coat from the base coat. This trouble usually becomes evident after about five years and is most acute during periods of high relative humidity such as are experienced in spring and summer. Work done at the National Bureau of Standards showed that this delayed expansion resulted from the use of partially hydrated dolomitic lime which contained a considerable amount of free magnesium oxide. The subsequent hydration of this oxide is responsible for the expansion and failure of the finish coat. This theory of expansion was known in 1938 but highly hydrated dolomitic lime was not commercially available at that time. The change in the standard had been delayed pending general availability of lime produced by the new process.



Cracking of plastering resulting from expansion of white coat.

The 1938 edition of this standard met with an unusual degree of acceptance and use. A printing of 30,000 copies was exhausted, the standard was adopted by reference into a number of building codes, and the chapter on lathing and furring was made a part of the constitution of the Wood, Wire and Metal Lathers International Union. An even wider use of the 1946 standard is anticipated.

The portland cement stucco and plastering standards are by definition restricted to portland cement-sand mixtures with small amounts of added plasticizing agents. If lime is used, the amount is limited to 10 percent by weight (25 percent by volume) of the portland cement. For plasticizing agents other than lime, the limitation is that the strength of the mortar shall not be reduced more than 15 percent by the addition of the plasticizer. The use of these newer plasticizing agents permits such lean mixes of portland cement to sand as 1 to 5 to be successfully worked. These leaner mixes should overcome the tendency for crazing associated with the richer mixes of cement and lime to sand. The aggregate (sand) is somewhat coarser than is prescribed by the specifications for plastering sand. Provi-

Separation of white coat from base coat resulting from expansion.

J. W. McBurney, *National Bureau of Standards, is secretary of the ASA Sectional Committee A42 on Plastering.*

sions are included, however, for adding fines if necessary for plasticizing. The philosophy behind these standards is expressed in the notes on Portland Cement Plaster, "Portland cement stucco (plaster) should be considered as a thin concrete or reinforced concrete slab or covering." The use throughout these standards of the term "metal reinforcement" for the more conventional "metal lath" accords with this philosophy.

The use of stucco has been under a cloud since the unfortunate experiences with magnesium oxychloride stucco in the nineteen-twenties. These standards should do much in restoring stucco to its proper place and extending its use.

These standards are being published by the American Society for Testing Materials who, with the American Institute of Architects, are sponsors of Sectional Committee A42. The two portland cement standards are being printed as a single document which also includes a chapter on lathing and furring.

The three American Standards for plastering were prepared by the ASA Sectional Committee on Plastering, A42, under the sponsorship of the American Institute of Architects and the American Society for Testing Materials. Theodore Irving Coe, representing the American Institute of Architects, is chairman of this committee, and J. W. McBurney, member-at-large, is secretary.

The revised American Standard Specifications for Gypsum Plastering, Including Requirements for Lathing and Furring, A42.1-1946, is now available from the American Standards Association at 35 cents.

The two new standards are being published by the American Society for Testing Materials, and it is expected that they will be available within the next month. They are:

American Standard Specifications for Portland Cement Stucco, A42.2-1946

American Standard Specifications for Portland Cement Plastering, A42.3-1946

Standards Engineers Club Hears Gaillard on Preferred Numbers

DR JOHN GAILLARD of the ASA staff discussed "Preferred Numbers as a Tool for Standardization" at the first regular meeting of the Standards Engineers Club at the Hotel George Washington in New York City on March 4, 1947.

The history, theory, and some practical applications of preferred numbers were covered in Dr Gaillard's paper and various specific and practical aspects of the subject were brought out in the lively discussion which followed.

The Standards Engineers Club was recently set up to facilitate the interchange of information and opinions facing engineers in all branches of the standards field. It has long been recognized that the usual means of exchange of professional information has not been developed in this field. The standards engineer, in most cases, has been left to devise his own professional techniques and methods.

The engineers in this group are not concerned with the establishing of new standards in any engineering field—such standards are adequately provided for by commercial organizations—but they are concerned with learning from their colleagues what methods, means of approval, etc, have been used in solving standardization problems.

The next meeting of the club is scheduled to be held in Syracuse, N. Y. on April 28, at which time the subject for discussion will be "The Place of Standards in an Engineering Organization."

For further information regarding the activities of this group, interested engineers are invited to write to H. R. Terhune, RCA Victor Division, Camden, New Jersey, or to Stanley Zwerling, 139-16 223rd Street, Laurelton, New York, who is chairman of the organizing committee.

Plans Started for Work on Frozen Foods Packaging

INITIAL steps are being planned by the American Standards Association for setting up a national committee of the frozen foods industry to cooperate in an international project for standardization in the frozen foods packaging field.

Cyril Ainsworth, technical director of the American Standards Association, who is in charge of the project has already written to many trade organizations in the frozen foods field looking toward a meeting in April for preliminary discussion regarding an international frozen foods packaging standardization program.

The New York meeting will be preliminary to a gathering at Geneva in June under the auspices of the newly formed International Organization for Standardization (ISO) where the whole question of frozen foods packaging standardization will be examined.

The original international project in the standardization of frozen foods packaging was suggested by Norway and actually already is under way through the United Nations Standards Coordinating Committee, which continues in existence until an office and staff have been set up in Geneva for ISO.

The meeting of American industries interested in international standardization of frozen foods will include all groups concerned in the packaging problem.

Following the usual ASA procedure, the American national group will consider the desirability of initiating a program parallel to the international program which will set up packaging standards acceptable throughout the world.

Sweden, Denmark, and France already have expressed the intention of participating in the Geneva meeting in June.

The American trade and technical associations which have been asked to participate in this work include: Frozen Food Institute, National Wholesale Frozen Food Distributors, National Frosted Food Institute of California, Eastern Frosted Food Association, Packaging Institute, Frozen Food Foundation, Packaging Machinery Manufacturers Institute, National Canners Association, and Farm and Home Freezer Manufacturers Association.

26 Nations Ratify International Civil Aviation Organization

Development of standard rules for international procedure in operation of air lines to promote safety is important part of program; metric and "inch" systems also being studied

WITH the ratification by 26 nations of the Convention on International Civil Aviation concluded in Chicago in 1944, a permanent organization, the International Civil Aviation Organization, has come into being for the promotion of greater world-wide cooperation in the aeronautical field. An interim body, the Provisional International Civil Aviation Organization (PICAO), which operates under the provisions of the Interim Agreement which was also drawn up at Chicago in 1944, has been carrying out the same duties since its inception in August 1945. To afford continuity, PICAO will continue in operation until the new organization's first Assembly, scheduled for May 6, 1947.

Much of PICAO's activity thus far has been concerned with the establishment of standards of procedure and operation, particularly for the promotion of air safety. The Divisions on Rules of the Air and Air Traffic Control, Communications, Meteorology, Search and Rescue, Aeronautical Maps and Charts, Aerodromes, Air Routes and Ground Aids, Airline Operating Practices, Airworthiness, Accident Investigation, and Personnel Licensing have already completed a full range of air navigation standards which are coming into use throughout the world. In addition, these divisions are meeting continually to consider any necessary revisions so that these standards will always be up-to-date.

Regional air navigation meetings are held in various parts of the world to consider those problems particularly pertinent to that specified area. PICAO invites all nations—members and nonmembers—to participate in these meetings "which concern both their own region and other regions in which they operate or intend to operate air services or contribute to transport facilities. The same invitation is extended to international organizations, such as the International Air Transport Association, which have an interest in the questions under discussion. IATA presents the viewpoints of air line operators. Any results which have world-wide application are referred to the Committee on Air Navigation and "will eventually be embodied in the universal code of standards and practices."

Most timely of the problems being studied by that committee, today, is standardization of dimensional systems for use in civil aviation. A special committee—the Dimensional Practices Committee—has been authorized, through a resolution adopted by the First Interim Assembly, "to consult experts appropriately qualified in the various fields to be surveyed." More specifically, the committee has been assigned:

"To determine the nature and importance of the handicaps imposed on civil aviation by lack of unification of units of measurement and to recommend the best means of overcoming such handicaps;

"To recommend how agreement may soonest be reached for the unification of practice respecting the greatest number of units of measurement to be used in

U.S.–PICAO Subcommittee on Dimensional Standardization

The membership of the U.S.-PICAO Technical Subcommittee on Dimensional Standardization is composed of representatives from the following organizations:

Civil Aeronautics Board, *Robert D. Hoyt*
Department of Commerce, *G. R. Gaillard (Civil Aeronautics Association), chairman; Louis P. Harrison (U.S. Weather Bureau); J. B. Kay (Coast and Geodetic Survey); Dr Wilmer Souder (National Bureau of Standards)*
Federal Communications Commission, *John R. Evans*
National Advisory Committee for Aeronautics, *T. L. K. Small*
Navy Department, *Captain N. A. Draim*
Post Office Department, *Cornelius Petersen*
State Department, *S. W. Boggs*
U.S. Coast Guard, *Lieutenant Commander W. W. Vennel*
War Department, *J. G. P. Callahan*

Aeronautical Radio, Inc, Air Line Pilots Association, Air Transport Association, Aircraft Industries Association of America, Inc, Aircraft Owners and Pilots Association, American Standards Association, and the Society of Automotive Engineers, Inc, have also sent representatives to serve as advisory members of the committee.

The American Standards Association was asked particularly to comment on the general industrial position in the United States with respect to the use of the English and Metric systems. The Association had hoped to use as a basis for its report the results of a questionnaire relative to the use of the two systems of measurement which the ASA Metric Committee has contemplated sending out to more than 2,000 company members and 98 national associations which comprise the ASA membership. Unfortunately, the time limitations imposed upon the U.S.-PICAO Technical Committee made this undertaking impossible. Thus, the final report submitted by the ASA at the U.S.-PICAO meeting in Washington on February 18 was based upon experience obtained in dealing with the industry groups participating in committee activities of the American Standards Association.

communications between aircraft in flight and ground stations; and

"To study and report on the nature and the timing of steps that would have to be taken to secure the application of the metric system in civil aviation in the event that it should finally be internationally adopted in this field."

Several meetings have been held, and the committee has agreed to make certain basic assumptions in considering the general problems of standardization in this area. Primarily, it believes that there is universal agreement on the desirability of a world-wide uniform dimensional system, provided it can be attained without serious hazard, great inconvenience, and cost. Experience during the war has shown that if the need is great enough, standardization of certain dimensional units can be achieved by the military forces of a number of nations; in fact, some dimensional units have already acquired a degree of universal acceptance and merit immediate world-wide standardization. Among the many problems to be faced will be that of re-educating personnel to use new dimensional units, and the expense involved in the changeover of equipment. Probably the two units (Metric and English) will have to be used simultaneously for a period of from five to ten years.

Questionnaire to Determine Views on Dimensional Standardization

To expedite further progress, a questionnaire has been sent to member nations to obtain their views on the over-all problem of dimensional standardization.

In the United States, the Air Coordinating Committee which was assigned the task of preparing the official U. S. position on this subject, appointed a U. S.-PICAO Technical Subcommittee to draft a report summarizing government and industry opinion on this matter. The American Standards Association as one of the advisory members of this committee was specifically charged with the task of submitting information from the viewpoint of industry with respect to the costs that might be involved in changing from the English to the Metric system.

The final document which will consolidate the official U. S. view, will be forwarded to the Interim Council for discussion on an international basis and final decision by that body.

The above is an excellent example of PICAO in operation, for much the same procedure is followed in the other technical committees of the organization. Every effort is made to obtain a complete sampling of all opinions concerned in any subject under discussion.

Charles Phelps Cushing

Joint support of air navigation and weather facilities is one of the services of PICAO that contribute to international cooperation. Pictured above, the control tower and weather instruments at New York City's La Guardia Airport.

In addition to the direct work carried on by these committees, PICAO also contributes indirectly to the promotion of greater international cooperation by its joint support of air navigation and weather facilities, and by making available greater economic, statistical, and legal services.

This need for international cooperation in civil aeronautics has long been recognized. As early as 1919, when the airplane was in its elementary stages of development, a conference was held in Paris which resulted in the adoption of the International Convention on Air Navigation. This agreement set standards for the technical problems involved in international civil aviation and provided for the exchange of information among its member nations.

Freedom of Air Passage Advocated

Again in 1928, the necessity for cooperation among nations—this time those in the Western Hemisphere—precipitated a conference in Havana. From this meeting came the Pan American Convention on Air Navigation which advocated among its many principles, the concept of freedom of air passage.

With the subsequent growth of air transportation culminating in the immense technological development of the aircraft during World War II, these principles became inadequate. Civil aviation authorities were faced with new and more complex situations. The entire problem of commercial rights remained unsettled; the legal and economic problems that arise with peacetime flying across national borders made the advent of international friction very likely. The need for a permanent international organization to coordinate the many conflicting views throughout the world was urgent.

Plans for Establishment of PICAO Made at 1944 Chicago Conference

In 1944, the United States undertook to explore the interests of other governments in this mutual problem. The investigation resulted in a meeting of delegates of 52 nations (both allied and neutral) in Chicago of that same year. Among the numerous resolutions and recommendations which constituted the Final Act of the Conference was the Interim Agreement on International Civil Aviation which, as mentioned above, provided for the establishment of PICAO until such time as the required number of nations could ratify the Permanent Convention.

PICAO is governed by an interim assembly and an interim council. The

first group is composed of delegates from the member nations—each nation being entitled to one vote. Unless otherwise provided, decisions are made by a simple majority.

The latter group, the council, is the executive body of the organization, and derives its power and authority from the assembly. It meets in continuous session and serves as an international forum on civil aviation matters. Its 21 members who are elected by the assembly for a two-year period, are selected upon the basis of "their importance in the field of air transport and their contributions to the provision of facilities for international air navigation." Representation is given to all major geographical areas of the world and any member nation concerned in any specific discussion who is not represented upon the council may be invited to participate. All council decisions must be approved by a full majority.

Council Maintains Liaison with Member Nations of Organization

In addition to its many supervisory and coordinating jobs, the council also maintains liaison with the member nations of the organization. "It must also receive, register, and hold open for inspection by member states, all existing contracts and agreements relating to routes, services, landing rights, airport facilities, or other international air matters to which any member state, or any airline of a member state is a party. It submits an annual report to the assembly on all aspects of the organization's work."

Council Has Authority to Arbitrate International Aviation Disputes

Among its numerous other duties, the council also may be called upon to arbitrate disputes between sovereign states concerning international aviation.

President of the Interim Council is Dr Edward W. Warner, well-known educator, author, and administrator in the field of aviation. Other officers include: Dr F. H. Copes van Hasselt (Netherlands), Colonel C. Y. Liu (China), Dr Guillermo E. Suarez (Colombia)—all serving as vice-presidents, and Dr Albert Roper, who is the secretary-general. Major General Laurence S. Kuter is the PICAO Council Member for the United States.

Because the work of PICAO is world-wide, it, quite naturally, will come into contact with many other international organizations, operating in related fields. In relation to the United Nations, PICAO is a completely independent body, but, at the present time, a draft agreement designed to make it a specialized agency has been drawn up. Ratified—with certain reservations—by the UN General Assembly, it has yet to be considered by the First General Assembly of PICAO which is scheduled to meet in Montreal, Canada in May.

Recent growth in the volume of air transportation has brought new and complex problems of commercial rights and other legal and economic problems in the field of civil aviation that call for international cooperation.

Charles Phelps Cushing

American Aeronautical Industry Now Using Decimal Dimensioning

Decimal dimensioning, affording major benefits of the metric system without simultaneously creating wholesale disruptive conversion headaches, increasingly is being used by the American aeronautical industry, the Society of Automotive Engineers announced recently.

Survey by the Aeronautical Drafting Committee of the Society of Automotive Engineers, made among airlines operators and manufacturers of planes, powerplants, propellers, and accessories, discloses that 80 percent now employs decimal dimensioning or contemplates its early adoption. Users explain that the practice of expressing limited measurements in decimals rather than fractions of inches contributes to speed and to accuracy both in design and in manufacture. Decimals are carried to two, three, or more places to satisfy varying tolerance requirements.

The survey reveals that 76 percent of the aeronautical industry has considered the use of decimal dimensioning, that 63 percent uses it already, and that 37 percent is using it for some purposes. In the propeller branch of the industry, 80 percent of manufacturers uses the decimal dimensioning system exclusively.

The practice is characterized as making the dimensioning of drawings much easier and more rapid and as being especially helpful in eliminating the time-consuming, error-producing operations of converting decimals to fractions and back to fractions again. Furthermore, tolerances may be indicated merely by extending digits after the decimal point.

Plans Summer Course on Industrial Standardization

Due to growing interest in lectures on industrial standardization, a summer course on this subject consisting of ten lectures to be given during one week in New York, in June, is planned by Dr John Gaillard, Mechanical Engineer, ASA staff. The plan calls for two lectures a day (morning and afternoon), each followed by problem discussions. Those interested are asked to write to Dr Gaillard personally for further information.

Abbreviations Standardized for 2,000 Terms for Use on Drawings

By William J. Kunz

Savings in time and work, and better understanding of industrial drawings is expected from use of the nationally agreed upon standard abbreviations

IN ancient times manuscripts were laboriously chipped from stone or nearly as laboriously copied page upon page by hand. The copyists, to save themselves time and labor, developed the habit of leaving out letters here and there in words which in their opinion could still be understood. In both Greek and Latin it was as necessary to learn what the "shortenings" meant before reading a book as it was to know the words themselves. More than 5,000 abbreviations or "shortenings" were used in the Latin literature, we are told, and glossaries of abbreviations had to be included in both Latin and Greek grammars.

All this has changed since the development of modern high-speed printing processes, and it has become the fashion to eliminate abbreviations in text except in technical publications when referring to specific sizes or quantities (or when referring frequently to the names of organizations).

All the ancient reasons plus some modern ones for abbreviating still hold true today, however, in the preparation of industrial drawings despite the fact that lettering can be typed, done with a lettering guide, or by hand. An entire literature has grown up for use in industrial drawings. Graphical symbols depict the machine or part represented in the drawing, and specialized abbreviations, used in notes, help describe a given part, material, or function. During the war, a survey by a War Committee of the American Standards Association brought to light a list of approximately 13,000 abbreviations for some 9,000 words commonly used on industrial drawings.

As was the case in ancient Greek and Latin documents, this widespread use of abbreviations now often leads to misunderstandings unless general agreement is reached on the meaning of each abbreviation used. Unlike the abbreviations of ancient times, however, misunderstandings today may result in the loss of thousands of dollars and many hours or days of precious production time. Consider the abbreviation CRS, for example. For many years, on a drawing CRS has meant cold rolled steel. Recently, however, the comparatively new product — corrosion-resistant steel— has been shown on some drawings by the same abbreviation, CRS. Obviously this duplication can lead to the loss of large sums of money, since the difference in price between cold rolled steel and corrosion-resistant steel is substantial.[1]

This may not be so serious if an industrial drawing is used entirely within an industry or within a company, but in times of emergency a large part of the nation's production is carried out through subcontracting and in this case variations in the meaning of abbreviations used on industrial drawings may present a grave problem.

Because of situations such as this, an American Standard has just been completed, representing the first attempt to bring about agreement on a dictionary of abbreviations among the many groups using industrial drawings. The standard is a minimum standard and includes only those general words or terms on which agreement could be reached at this time, but it gives for the first time a dictionary of abbreviations for 2,000 words or terms—a good start.

Work on Abbreviations Speeded by Urgency of War Needs

The new American Standard is the result of activity initiated during the war to try to solve some of the differences between the Armed Forces and industry. Before the war a few voices had been raised calling for an American Standard to define the abbreviations used on industrial drawings but then there seemed no urgency about the matter. Although a subcommittee of the ASA Sectional Committee on Grahical Symbols and Abbreviations for Use on Drawings was organized, little was done to bring about agreement on a national standard. The war changed this situation. The Army and Navy needed materiel in a hurry and sent out drawings to its contractors, who in turn sent their drawings to subcontractors. Unfortunately, because

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[1] This duplication has been eliminated in the new American Standard Abbreviations for Use on Drawings by the selection of a new abbreviation, CRES, for the term "corrosion-resistant steel."

Army and Navy drawing practice frequently differed from the practice followed in industry, many of the contractors had to maintain large staffs of draftsmen who spent hours and sometimes days changing and remaking the drawings so they could be understood by the workmen who had to interpret them in the shop.

Some amusing, although under the circumstances serious, incidents occurred because of the divergent interpretations of the instructions on drawings specifying war materiel. In one case a drawing specifying "chrom prim" meaning chromate primer was interpreted to mean "chromatic primates" with no one quite sure what type of primitive animal that might be.

188 Lists of Abbreviations Submitted to Committee

Because the cost of remaking drawings, and the delays and errors due to misinterpretation of instructions, piled up costs to astronomical proportions, many serious-minded men in industry as well as in the Armed Forces became deeply concerned. They appealed to the American Standards Association to set up a war committee to bring all groups together and to work out a national standard to solve all the various problems concerned with drawings. This committee made good progress, but circumstances caused it to stop its activities before any standards were finally agreed upon. In the process of its work, however, letters pertaining to abbreviations were sent out to more than 2,000 companies in all branches of industry and to the Armed Forces requesting them to submit lists of the abbreviations which they were using or which were in common use on drawings in their industry. More than 350 replies submitting 188 lists were received. These were in addition to a comprehensive list submitted by the Joint Army-Navy Committee. As mentioned above, a total of approximately 9,000 words was submitted, with from one to seven abbreviations for each word, totaling approximately 13,000 abbreviations.

When the war committee ended its work without coming to a final conclusion, the material collected was turned over to the Sectional Committee on Standardization of Graphical Symbols and Abbreviations for Use on Drawings. This committee operates under the chairmanship of W. L. Heard, Bell Telephone Laboratories.

The sectional committee studied the 13,000 abbreviations submitted, and from them agreed upon standard abbreviations for approximately 2,000 terms. In many cases, there seemed to be general agreement in industry on the use of a particular abbreviation. In such cases there was no problem and the abbreviation was included in the standard without question. In other cases, a number of different abbreviations were used for the same word but a particular abbreviation was given overwhelming preference by a majority of the companies reporting. Such a case was the word "alternate." Eight of the companies reported that they used "ALT" whereas only two companies reported the use of "ALTER." The abbreviation "ALT" was chosen for the standard even though the same abbreviation is also used for the word "altitude." In this case it was felt there could be no confusion. For the term "aluminum alloy," however, usage was evenly divided between "AL-ALY," "AL-A," "ALUM ALLOY," and "AL ALLOY." Since the largest number of reports on the abbreviation for "aluminum" showed a preference for "AL," this problem was solved by using "AL" for aluminum and "ALY" for alloy.

In another case, that of "American Standard," however, the decision of the committee was completely opposed to prevailing practice. The majority of reports showed the use of "AM STD," whereas only one company reported the use of "AMER STD." Since "AM," with no period, was assigned as the abbreviation for "ammeter" and "AM." with period was assigned to both amplitude and amplitude modulation, it was decided that it would be less confusing to use the abbreviation "AMER STD" for the words "American Standard."

The common term "pounds per square inch" was one of the most widely diversified despite the fact that the abbreviation "psi" has been recommended for some years in the American Standard Abbreviations for Scientific and Engineering Terms. Although the abbreviation "PSI" was the most widely used, the reports showed that this term was also abbreviated in practice as "LB PER SQ IN.," "LB-IN^2" "LB PSI," "#/SQ IN.," "#/″", "LBS/SQ IN.," and "#/IN.$_2$." The committee recommended the simple "PSI," which seems to be gaining wide acceptance.

Although it made progress in recommending a good general assortment of abbreviations for 2,000 terms used on drawings, the committee found that in many cases it could not come to an agreement. In such cases, the term was omitted from the standard with the thought that as this first standard becomes accepted in practice it will become easier to win agreement on terms which at the present time are controversial. One of the important terms omitted from the standard on this basis is "manganese

Charles Phelps Cushing

Blueprints are readily understood and interpreted by draftsmen and shopmen when standards are employed in making industrial drawings.

bronze." Nine different abbreviations were reported for this term, none having more than a scattering of votes. In this case it was impossible for the committee to agree on any one of the nine abbreviations as being the proper one to standardize.

One of the unusual controversies that brought heated arguments from all sides was in connection with the use of the Greek letter μ, M, or MU as an abbreviation for "micro." The proponents of each were hotly biased in favor of their own choice and just as hotly opposed to the use of any of the others. Because the letter "M" is used as an abbreviation for several other terms, "magnet," "mega," "meter," and "milli," it was finally decided to eliminate it from consideration as an abbreviation for "micro" but recommend both the Greek letter μ or MU as an abbreviation for "micro." The Greek letter was included because it is preferred by industrial publications for use in text, and it would frequently be awkward if the abbreviations on drawings in published papers differed from the abbreviations for the same term used in the text.

Drawings With One Interpretation Objective of New Standard

Basic principles for use as a guide in the selection of abbreviations for drawings have been included in the standard. The first of these is: When in doubt, spell out. Abbreviations serve an important purpose in conserving the draftsman's time, but they must be interpreted by shopmen, assemblers, construction men, and others, and the primary objective should be to provide drawings which cannot by any stretch of the imagination be misconstrued.

In addition to this first and basic principle, are the following: The same abbreviation is used for both the singular and plural forms of a word. Periods are used only to avoid misinterpretation. Spaces between letters are used for clarity only. The use of hyphens and slant bars has been avoided where possible. Subscripts are not used in abbreviations. When an abbreviation for a given word has been established, it is always used in any combination of words, except where otherwise determined by long-established practice. Abbreviations not appearing in this American Standard may be used but should be explained in a table on the drawing. Upper case letters are always used for abbreviations on a drawing, but if a formula or equation must be used on a drawing, the rules governing letter and mathematical symbols apply.

Terms Used by Army and Navy Included Among Abbreviations

In addition to terms used by industry, many used by the Army and Navy are also included in this standard. Whenever abbreviations decided upon by the Joint Army-Navy Committee agreed with those recommended by industry, those abbreviations were included in the standard. Both the Army and Navy were represented on the sectional committee, and copies of the proposed draft of the American Standard were used by the Joint Army-Navy Committee in preparing standard abbreviations to be approved as a JAN standard.

The importance of this first step in bringing about national agreement on abbreviations used on drawings may be underestimated by many who do not realize its significance.

Abbreviations form a simplified or shortened language which can be readily understood. Any abbreviation may be adequate when used only within a given industry or within a given company. But American industry faces the fact that it may at any time be called upon to meet a national emergency where it will again have to work at top speed and in close cooperation. In this age of atomic energy it is quite conceivable that some day during a national emergency Detroit, for example, the nation's center of automotive production, might be entirely wiped out. In such a national catastrophe other production centers would be called upon to take over the task of making essential automobiles, trucks, or gun carriages. The conversion of a shop in another industry to produce automobile parts would be a tremendous undertaking in itself as was proven in the past war. The additional handicap of not being able to quickly and correctly understand and interpret the drawings of another industry might conceivably make all the difference between success and failure in a vital project.

Production in Drafting Department Gains by Standard Abbreviations

This, of course, is taking a long-range and pessimistic view, which we hope is not entirely justified. However, there is another immediate problem which is vitally important at this time—the shortage of draftsmen in all phases of engineering. The purpose of these American Standard abbreviations is to minimize the length of time required to hand letter notes on drawings which in some industries must be added in considerable volume. Anything that can be done, whether it is conservation of lines, simplification of design, or standard abbreviations to shorten notes and descriptions, all add up

Members of Subgroup 2 of Subcommittee 3, Abbreviations for Use on Drawings, of the ASA Sectional Committee on Graphical Symbols and Abbreviations for Use on Drawings, Z32, prepared the new American Standard Abbreviations. The work of the sectional committee is carried on under the sponsorship of the American Institute of Electrical Engineers and the American Society of Mechanical Engineers. Members of Subgroup 2 are:

W. J. Kunz, Manager, Drafting Department, Combustion Engineering Co, Inc, *Chairman*
G. F. Habach, Designer, Worthington Pump and Machinery Corp
W. C. Haight, General Motors Corporation, Buick Motors Division
F. O. Hoagland, Master Mechanic, Pratt and Whitney Division, Niles-Bement-Pond Company
George Nordenholt, Editor, *Product Engineering*
George Lautrop, Engineering Department, Otis Elevator Company
E. L. Penfrase, President, Penfrase Specialties
H. W. Robb, Standards Engineer, General Electric Company
F. G. Schranz, Vice-President, Continental Foundry and Machine Company

Copies of the American Standard Abbreviations for Use on Drawings. Z32.13-1946, are available from the American Standards Association at $1.00 each.

to one thing—increased production in the drafting department.

It must be borne in mind, however, that it is essential to the successful use of American Standard abbreviations that the shopmen who must interpret these drawings are alert to the fact that the abbreviations are American Standard abbreviations and have a specific meaning. Unless the standard language is a universal language, understood by all, it might as well be the language of another country. Its entire purpose and meaning will be lost. After all, the end result of design and drafting must be fabrication, erection, and operation.

Cochrane President Of Marine Engineers

At the Annual Meeting of the Society of Naval Architects and Marine Engineers, Vice Admiral Edward L. Cochrane, USN, was elected president for a two-year term.

Interchangeability Is Goal Of Work on Anti-Friction Bearings

New sectional committee holds first meeting; will study Numbering System proposed by U. S. Navy Department and by Anti-Friction Bearing Manufacturers Association

ON March 14 a new sectional committee, organized under ASA procedure to develop an American Standard Numbering System for Anti-Friction Bearings, held its first meeting in New York. The committee was organized by the Mechanical Standards Committee of the ASA which acts as sponsor for this new ASA project.

The project originated from a letter sent the ASA in March 1946 by Secretary of the Navy James Forrestal. With his letter the Secretary submitted to the ASA a copy of the Army-Navy numbering system for anti-friction bearings originally developed by the Navy Department and subsequently adopted also by the Army. The Navy had developed its system because during the war great difficulties had been experienced due to the fact that a ball or roller bearing of a certain type and size had been designated in different ways by the various manufacturers. This had led to great confusion and inefficiencies in the storing of anti-friction bearings and in supplying them where they were needed. It had sometimes happened that a desperate call for the delivery of a certain kind of ball-bearing had been made to a particular manufacturer, although at the same time an ample supply of identical bearings of different make had been on hand. One case was reported where a battleship had made a detour of 500 miles to pick up a replacement bearing at a Navy stock depot to find later that the same kind of bearing of a different make, but equally well suited for the purpose, had been aboard.

To remedy this situation, the Navy Department, Bureau of Ships, had developed a numbering system based on a classification of anti-friction bearings into nine groups and designating symbols consisting of 12 digits. The Navy had required suppliers to use these designations on the packages of their bearings in addition to whatever symbol the manufacturer might care to use for his own purpose.

The Secretary of the Navy asked that the ASA lend its assistance in getting the Army-Navy system generally adopted by industry. To comply with this request, the ASA suggested that the question whether the Army-Navy system would be acceptable as an American Standard be submitted to a general ASA conference of all interested parties for its consideration. As this suggestion was acceptable to the Navy, a general ASA conference was held in New York in June 1946. Here, the Army-Navy system was presented and fully explained by Lieutenant H. H. Gillespie of the Bureau of Ships who has been closely associated with its development.

The Army-Navy system is based on the use of numbers consisting of three sections, with, respectively, 3, 5, and 4 digits. The first and second sections form together a "base number" which always must be used. The third section is selective, that is, it has to be used only where information additional to the base number is required for complete identification of a bearing. The structure of the number is fixed in that the position of a digit in the number always gives a definite type of information. Also, the system is descriptive inasmuch as the designating numbers may be decoded by means of a key given in the Army-Navy system. For example, the first digit in the first section of numbers indicates a group of bearings which, according to the Army-Navy system, covers Annular Ball Bearings. Similarly, the fourth, fifth, and sixth digits of the second section indicate the bore diameter in millimeters or sixteenths of an inch, while the seventh and eighth digits of the second section indicate the outside diameter and the width. Obviously, the numbers of the Army-Navy system may also be used as "dead numbers," that is, arbitrary numbers without significance, in cases where no decoding is required.

Representatives of the Anti-Friction Bearing Manufacturers Association, who attended the general con-

ference, called attention to a numbering system developed by their own organization. The conference resulted in unanimous agreement that it would be desirable to have a single uniform numbering system for anti-friction bearings and that the development of such a system should be assigned to a sectional committee to be organized under ASA procedure.

The recommendation made by the general conference was referred to the Mechanical Standards Committee of the ASA, which approved it. Furthermore, the MSC decided that the project should preferably be handled under its own sponsorship and its recommendation to this effect was endorsed by the Standards Council. The MSC then appointed a small organizing committee consisting of Frank T. Ward, chairman; Frank O. Hoagland, and Charles M. Parker. Upon recommendation of this committee, the MSC approved a tentative scope for the project, reading as follows:

"A numbering system for the identification and classification of anti-friction bearings."

Another recommendation of the organizing committee was that the secretariat of the new sectional committee be assigned to the ASA staff. This suggestion was also accepted by the MSC, and Arthur R. Spence, staff engineer of the ASA, was appointed secretary.

Finally, the organizing committee recommended a list of organizations to be invited to membership on the sectional committee which also was approved by the MSC. As a result, the following organizations are now represented on the sectional committee:

American Gear Manufacturers Association
American Society of Mechanical Engineers
American Transit Association
Anti-Friction Bearing Manufacturers Association
Association of American Railroads
Automobile Manufacturers Association
Hydraulic Institute
National Aircraft Standards Committee
National Electrical Manufacturers Association
National Machine Tool Builders' Association
Navy Department
Society of Automotive Engineers
ASA Telephone Group
Treasury Department
War Department

Replies to the invitation to membership are still expected from the American Petroleum Institute, the American Society of Tool Engineers, the Materials Handling Institute, the Office Equipment Manufacturers Institute, and the Rubber Manufacturers Association.

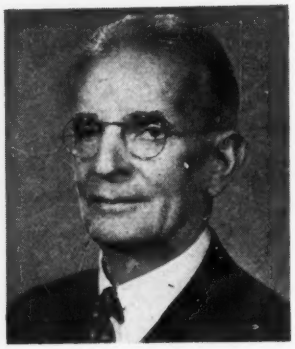
All of the organizations which so far have accepted the invitation were represented at the organization meeting on March 14. The scope tentatively approved by the MSC was accepted by the sectional committee.

On behalf of the Anti-Friction Bearing Manufacturers Association, H. O. Smith, its executive secretary, made a detailed presentation of the numbering system developed by this organization. (Prior to the meeting, copies of the Army-Navy system and the Anti-Friction Bearing Manufacturers Association system had been sent to all of the committee members.) It appeared that this system, like the Army-Navy system, is a significant one in that the designating symbols, when interpreted with the aid of a key, indicate the nominal dimensions, tolerances, and other characteristics of a bearing.

The discussion at the meeting showed that a further study of the two systems submitted for the consideration of this sectional committee would be required, or rather, that the basic question as to what kind of a system would best serve the common purpose of industry and the Government should be studied in more detail. Therefore, it was unanimously decided that a subcommittee be appointed to make such a study and report back to the sectional committee before June 1, 1947. The appointment of the subcommittee was left to the temporary chairman of the meeting, Frank T. Ward, who the previous day had been elected as the new chairman of the ASA Mechanical Standards Committee.

Mechanical Standards Group Elects Ward and Hoagland

Frank T. Ward



Frank O. Hoagland

FRANK T. WARD, vice-president and chief engineer of The Third Avenue Transit Corporation, New York, and representative of the American Transit Association on the ASA Mechanical Standards Committee, was elected chairman of the MSC at its meeting March 13. Frank O. Hoagland, Pratt and Whitney Division, Niles-Bement-Pond Company, representative of the National Machine Tool Builders' Association, was elected vice-chairman.

Mr Ward, who has been a member of the MSC since soon after the organization of the committee in 1935, has had a special interest in the application of mechanical standards during his long engineering experience. This experience included service in China as engineer for the Robert Dollar Import Company, handling railway, marine and industrial equipment and installations, and several years as engineer in charge of steam generating plant and brick-making plant in Missouri, before he started his career in the transportation business. In 1927, Mr Ward became engineer on the New York City Subway System in charge of selection and design of ventilating equipment for tunnels. In 1928 he joined the staff of his present com-

pany, the Third Avenue Transit Corporation, New York, as assistant superintendent of equipment and buildings. Later he was made superintendent of bus maintenance; chief engineer; and recently vice-president and chief engineer.

Hoagland Well Known In Machine Tool Industry

Mr Hoagland, new vice-chairman, is an outstanding figure in the machine tool industry. He was born in Sweden and received his technical education there. His first machine shop training was in Waltham, Massachusetts, making instruments and watchmaking tools and machinery. Later he became chief engineer of the Remington Arms Company. For the past 20-odd years he has been master mechanic of Pratt and Whitney Division of Niles-Bement-Pond Company, West Hartford, Connecticut.

Mr Hoagland is an active member and past vice-president of the American Society of Mechanical Engineers which he joined in 1912.

He was chairman of the Standards Committee of the National Machine Tool Builders' Association for 15 years.

He has taken an active part in the affairs of the American Standards Association as a member of the Standards Council representing the National Machine Tool Builders' Association since 1934, and has been a member of the Mechanical Standards Committee since 1936.

In addition to his policy-making duties on the Mechanical Standards Committee and the Standards Council, Mr Hoagland is also taking an active part in the technical work on standards. He has been for many years vice-chairman of the Sectional Committee on Small Tools and Machine Tool Elements, B5, and a member of the Sectional Committees on Allowances and Tolerances for Cylindrical Fits and Limit Gages, B4; Classification and Designation of Surface Qualities, B46; Classification of Materials for Tools, Fixtures, and Gages, B52; and on Petroleum Products and Lubricants, Z11. Moreover, Mr Hoagland has been very active in promoting the ASA work through talks to local sections of technical societies and other groups.

Both Mr Ward and Mr Hoagland are keenly interested in the new responsibilities which the Mechanical Standards Committee is assuming, and in the plan for the layout of a standardization program in the mechanical field, now under consideration by the MSC.

Members of the Executive Committee, elected at the March 13 meeting, are:

D. E. Batesole, Society of Automotive Engineers
Charles M. Parker, American Iron and Steel Institute
L. W. Kattelle, Manufacturers Standardization Society of the Valve and Fittings Industry
J. R. Townsend, American Society for Testing Materials
J. R. Kruse, American Society of Mechanical Engineers

The Mechanical Standards Committee took action on a number of matters, some of which will have to be confirmed by a letter ballot of the entire committee membership.

Mechanical Standards Committee Membership:—In addition to the National Aircraft Standards Committee and the Automobile Manufacturers Association, which recently were invited to membership on the MSC but have not yet appointed representatives, an invitation has been extended to the Air Conditioning and Refrigerating Machinery Association.

Cast-Iron Flanges and Fittings for Refrigerant Piping, 300 lb—A proposed American Standard on this subject originally developed by a subgroup on the ASA Sectional Committee on Pipe Flanges and Fittings, B16, had been submitted to the ASA for final approval and referred to the MSC for advice. Following this submittal, objections to ASA approval had been received from the Air Conditioning and Refrigerating Machinery Association. These objections were explained verbally in the MSC meeting by the executive vice-president of the Association, Wm B. Henderson. The technical side of the Association's objections was explained by Frank J. Allen of the York Corporation who accompanied Mr Henderson. The MSC decided to refer the case to a subcommittee representative of the groups having a major interest in the proposed American Standard, to study the details of the case and advise the MSC in regard to further action. The appointment of this subcommittee was left to the chairman of the MSC.

V-Belts and V-Belt Drives—It was reported that during the last few years the ASA had received a number of inquiries from abroad concerning the standardization of V-belts and V-belt drives. Inquiries among American groups interested in this matter had shown that there appeared to be a desire for standardization in this field on a national basis. The National Machine Tool Builders' Association was in favor of the initiation of an ASA project and had expressed the opinion that possibly American-British unification could be established in this field. Furthermore, the NMTBA had offered to become joint sponsors with the ASME for such a project. This suggestion had appeared to be agreeable to the ASME. Accordingly, the MSC decided that a new ASA project on V-belts and V-belt drives should be set up; that the work should be handled by a sectional committee; and that the NMTBA and ASME should be invited to accept joint sponsorship.

Stainless Steel Pipe and Fittings—Recently the Heating, Piping and Air Conditioning Contractors National Association had requested the ASA to take steps toward the establishment of an American Standard for Stanless Steel Pipe and Fittings, submitting at the same time certain proposals resulting from a conference between representatives of the Association and manufacturers of the products in question. The matter had been referred to the MSC members by correspondence, resulting in the decision that the proposal should be referred to ASA Sectional Committee B16 on Pipe Flanges and Fittings, in so far as stainless steel fittings are concerned, and to ASA Sectional Committee B36, on Wrought-Iron and Wrought-Steel Pipe and Tubing, in so far as stainless steel pipe is concerned.

Colors for Industrial Apparatus and Equipment—In recent discussions of the Company Member Committee of the ASA, it had been recommended that the ASA consider the establishment of a series of four standard gray colors for industrial apparatus and equipment and that one of these colors be identical with machine tool gray 7-B, adopted by the National Machine Tool Builders' Association. Discussion of this recommendation by the MSC brought out that the purpose of such a project was to reduce the large number of shades of gray which customers now ask manufacturers of industrial machinery and equipment to use. Sometimes the problem was to have all units in a plant have the same color, even though they had been made by different manufacturers. In other cases, contrasting colors were desired and the problem was then to

have standard colors whose blending gave a pleasing effect. The MSC decided that if a project of this kind were started it might be extended later to colors other than gray. Therefore, the title of the project was formulated so as to leave this possibility open. The MSC decided that the project should be initiated under the sectional committee procedure and under MSC sponsorship.

Ball and Roller Bearings, B3—For some time the reorganization of the ASA project on ball and roller bearings, B3, has been under consideration. In this connection, the American Society of Mechanical Engineers and the Society of Automotive Engineers, joint sponsors for the existing project, had offered their resignation, which was considered by the MSC and accepted with regret. The MSC decided to assume sponsorship for this project. A small subcommittee to advise the MSC on the reorganization of the project will be appointed by the chairman.

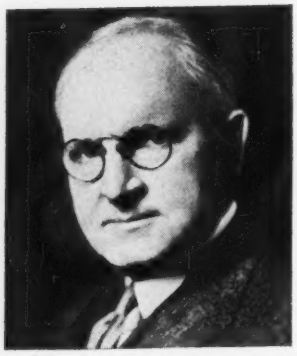
Reaffirmation of American Standards—The MSC voted to recommend reaffirmation of a series of American Standards in the mechanical field. These are being sent out to letter ballot of the entire MSC membership. In this connection, it was found that a period of three years of use of American Standards before review to decide if they should be revised or reaffirmed appeared to be too short. Accordingly, the MSC decided to recommend to the Standards Council that it ask the Committee on Procedure to consider the extension of the term to five years.

Inactive Projects—The ASA project on Specifications on Leather Belting, B42, had been inactive for several years and an investigation had been made as to whether the interested groups still desired to have this work completed. It had been found that the Leather Belting Institute, a major group in this field, was not interested in the establishment of an American Standard. Therefore, the ASME, sole sponsor for the project, had submitted its resignation and recommended that the project be dropped. A motion to this effect was adopted by the MSC.

Resolution of Appreciation—The MSC adopted a unanimous resolution expressing appreciation on behalf of its membership to Alfred E. Iddles, retiring chairman, and F. H. Morehead, retiring vice-chairman of the MSC, for their valuable services to the MSC and the ASA during their term of office. Both Mr Iddles and Mr Morehead had occupied their positions since the MSC was organized in 1935.

Building Code Committee Reports on Status of Work

George N. Thompson



Theodore I. Coe

THE Building Code Correlating Committee, at its annual meeting March 14, re-elected George N. Thompson chairman, and elected Theodore I. Coe as vice-chairman. It also reviewed the progress of the sectional committees working on standard building code requirements.

Mr Thompson, chairman of the BCCC since 1944, is chief of the Division of Codes and Specifications, National Bureau of Standards. He has been closely associated with national building code work for many years. In 1926, he was named secretary of the Building Code Committee of the U.S. Department of Commerce and chief of the Building Code Section of the Division of Building and Housing (now the Division of Codes and Specifications) of the National Bureau of Standards. He became vice-chairman of the Building Code Correlating Committee in 1935 and chairman in 1944.

Mr Coe, who has been a member of the Executive Committee of the BCCC since 1945, is technical secretary of the Department of Education and Research, American Institute of Architects. He has to his credit many years of architectural experience, during which time he has been connected with the construction of such well-known buildings as the St Regis Hotel and the United States Supreme Court Building. During World War I, he supervised the installation of mechanical equipment for the extensive U.S. Army Supply Base at South Brooklyn, one of the largest government building projects of that war. Among his many other activities, he is a former chief inspector of the New York City Bureau of Fire Prevention, as well as one of the founders and past president of the Washington Building Congress, and has been chairman of the Board of Zoning Adjustment of the District of Columbia since its organization in 1938.

A resume of the activities of the BCCC during the past year, with emphasis on their relation to future plans, occupied most of the meeting. In addition to status reports on the various projects, much of the discussion centered upon the changes in ASA procedure which have brought increased responsibility to the correlating committees. Under the former procedure, a letter ballot of the entire Standards Council was necessary to approve a standard as American Standard. The new modification in the ASA By-Laws now permits action by a special committee of the Standards Council—the Board of Review—in lieu of the Council itself, in order to expedite approval of a standard. This makes for greater re-

sponsibility on the part of the correlating committees, because correlating committee recommendations will be the main factor in action by the Board of Review.

Attention was also called to the increasing use of American Standards in building codes. Mr Thompson said that the National Bureau of Standards is collecting data on the adoption and use of standards by cities. He requested that members hearing of any American Standard in use either directly or indirectly in municipal or state codes should pass along the information to H. M. Lawrence, secretary of the Building Code Correlating Committee, at the ASA office.

One of the important actions taken by the committee was the adoption of a resolution in memory of Rudolph P. Miller, chairman of the Building Code Correlating Committee for many years, whose recent death was a severe loss to the building industry. (See page 98).

Reports from the sectional committee chairmen indicated that work on the various projects is in the following stages of development:

Building Exits Code, A9—

Sponsor: National Fire Protection Association

Following approval by the ASA late in 1946 of the eighth edition of the Building Exits Code, the NFPA Committee on Safety to Life (ASA Sectional Committee A9) has been actively engaged in the preparation of recommendations covering exit requirements for hotels and apartment houses. Progress is being made but a complete revision will probably not be made this year.

Building Code Requirements and Good Practice Recommendations for Masonry, A41—

Sponsor: National Bureau of Standards

Steps are to be taken soon to review the standard approved in 1944 to determine whether it should be reaffirmed without charge, or revised, if this is necessary.

Study of the need for requirements for reinforced brick masonry is still under way in the committee.

Building Code Requirements for Fire Protection and Fire Resistance, A51—

Sponsors: National Board of Fire Underwriters; National Bureau of Standards

During the past year, two meetings of the sectional committee and three series of meetings of subcommittees have been held. The only subcommittee report so far completed is one from the subcommittee on roofing now out to letter ballot of the sectional committee. A further series, including meetings of four or five subcommittees and a meeting of the sectional committee, is planned for June 1947.

Funds have been made available to the National Bureau of Standards for research that will assist the work of sectional committee A51. Studies will be made on floor loads and combustible loads in certain types of buildings to supplement data obtained in previous investigations.

Officers of the BCCC

Officers of the Building Code Correlating Committee for the coming year are:

George N. Thompson, Chief, Division of Codes and Specifications, National Bureau of Standards, *Chairman*

Theodore I. Coe, Technical Secretary, Department of Education and Research, American Institute of Architects, *Vice-Chairman*

H. M. Lawrence, Materials Engineer, American Standards Association, *Secretary*

J. H. Courtney, American Standards Association, Washington Office, *Technical Secretary*

Members of the BCCC Executive Committee are:

A. V. Bekay, representing the Associated General Contractors of America, Inc

C. T. Bissell, representing the National Board of Fire Underwriters

Oscar T. Nelson, representing the International Association of Governmental Labor Officials

Edward W. Roemer, Member-at-Large

Clarence A. Willson, representing the American Society of Civil Engineers.

Building Code Requirements for Chimneys and Heating Appliances, A52—

Sponsor: National Board of Fire Underwriters

This committee decided at its latest meeting (February 1945) that further information and data were necessary for its work and accordingly endorsed a proposed research program, at that time just getting under way in the National Bureau of Standards with the National Housing Agency cooperating. This research had been delayed by war work but it is now understood to be practically completed and reports are expected from the National Bureau of Standards later this spring.

Meetings of subcommittees and of the sectional committee are planned for the coming summer.

Building Code Requirements for Light and Ventilation, A53—

Sponsors: Federal Security Agency; Public Health Service; National Housing Agency

Circulation of this standard in 1946, following its approval by the American Standards Association in June, has not yet brought suggestions for important changes, so no review of the standard is planned at present.

Building Code Requirements for Fire-Extinguishing Equipment, A54—

Sponsor: National Fire Protection Association

Recognizing that the work of this committee is somewhat dependent on requirements on fire protection and fire resistance now under development in sectional committee A51, the National Fire Protection Association, sponsor for this project, has been deferring work on fire-extinguishing equipment until more complete reports are available from subcommittees of committee A51.

Administrative Requirements for Building Codes, A55—

Sponsors: American Municipal Association; Building Officials Conference of America, Inc

A revision of this standard, approved in 1944, is expected to be available for action by the BCCC within a few weeks.

Building Code for Excavations and Foundations, A56—

Sponsor: American Society of Civil Engineers

This proposed standard was submitted to the sponsor early in January 1947 and it is expected that action will be taken by the American Society of Civil Engineers as sponsor at the meeting of its Board of Direction some time in April.

Building Code Requirements for Structural Steel, A57—

Sponsors: American Institute of Steel Construction, Inc; American Society of Civil Engineers

A review looking toward reaffirmation or revision of this standard, first approved in 1943, is expected to be undertaken within the next few months.

Building Code Requirements for Minimum Design Loads in Buildings, A58—

Sponsor: National Bureau of Standards

Reports indicate that the standard approved in 1945 has obtained considerable recognition and use as the basis for municipal building requirements.

Building Code Requirements for Reinforced Gypsum Concrete, A59—

Sponsors: Building Officials Conference of America, Inc; Gypsum Association

A revision of this standard was approved in 1945 to care for minor revisions that had been suggested after the standard had been in use for four years. Circulation of this second edition during the past two years has brought only one suggestion for a minor revision which will be considered next year.

Building Code Requirements for Signs and Outdoor Display Structures, A60—

Sponsors: American Municipal Association; Outdoor Advertising Association of America

The sectional committee completed action on the proposed standard last fall and submitted a draft to the sponsors. Following

this submittal, the Outdoor Advertising Association of America presented several suggestions for changes. These proposals were considered and minor modifications in the draft were drawn up. Due to an illness of the secretary of sectional committee A60, however, circulation of the proposed changes to the committee has been delayed. It is expected that action by the committee and the sponsor can be completed by early summer.

Building Code Requirements for Wood, A61—

Sponsors: Forest Products Laboratory, U. S. Department of Agriculture; National Lumber Manufacturers Association

Work on this project is being resumed following interruptions during the war and the preparation of a draft is being actively pushed by the Forest Products Laboratory.

Building Code Requirements for Iron and Steel Other Than Structural Steel, A87—

Sponsors: American Iron and Steel Institute; American Society of Civil Engineers

The proposed standard on Steel Joist Construction, A87.1, has been sent to letter ballot of the BCCC.

Building Code Requirements for Reinforced Concrete, A89—

Sponsor: American Concrete Institute

The well-known Regulations for Reinforced Concrete adopted by the American Concrete Institute in 1941 were approved as American Standard last year. Revision of the standard is under way in the American Concrete Institute and when completed it is expected to be submitted to ASA.

Safety Code for Grandstands, Tents, and Places of Outdoor Assembly, Z20—

Sponsors: Building Officials Conference of America; National Fire Protection Association

Two standards have been approved from this project. The first, providing specifications for portable steel and wood grandstands, was approved in 1941, and the second, the Safety Code for Grandstands, Tents, and Places of Outdoor Assembly, was approved last year as a result of widespread public reaction to the Hartford circus fire. A meeting of this sectional committee is scheduled for April 17, at which time a review of these standards will begin.

Compilation of Definitions—

A compilation of definitions, both in completed standards and those still in process in building code committees, had been recommended by the BCCC at the 1946 meeting. This document was prepared and circulated to members of the BCCC, and to chairmen and secretaries of the sectional committees in August 1946.

Subcommittee on Performance Standards—

The Building Code Correlating Committee, re-emphasizing at its 1946 meeting the

(*Continued on page* 101)

Committee Asks Comments On Safety Color Definitions

Standard shades defined for use in applying Safety Color Code

THE shades of red, green, and yellow to be used in marking physical hazards as specified in the American War Standard Safety Color Code, Z53.1-1945, have been tentatively defined by a subcommittee of the ASA War Committee that prepared the standard. These tentative definitions (Tables A and B) are being circulated for comment and criticism. Table A gives the technical limits for each of the colors and Table B lists material standards that have been tested and found to be within these technical limits, and are now available.

In making its report, the subcommittee considered particularly whether the shades of red and green it was recommending could be distinguished by color-blind individuals. This is an important consideration since about 4 percent of all men are known to be color-blind. To prevent confusion, the subcommittee has recommended a red and green that can be distinguished by the largest majority of color-blind individuals. In addition, the subcommittee has set the limits of the colors so that these colors can be produced from textile materials, printing inks, and vitreous enamels on metal, as well as paints.

The equations of the boundary lines of the areas indicated on the ICI (International Commission on Illumination) chromaticity diagram, the Munsell book notation, and renotation for the center point of each area, and the ISCC-NBS (Inter-Society Color Council—National Bu-

Table A

	ICI Chromaticity and Reflectance Limits	Munsell Notation for Center Point of Each Area (and Renotation)	ISCC-NBS Color Designation (Whole Area)
RED	$y > 0.313$ $y > 0.559 - 0.394x$ $y < 0.332$ $x > 0.586$ $6.7 < Y < 13.2$	6R 3.5/18 (8R 3.6/15)	Vivid red to Vivid reddish orange
YELLOW	$y > 0.938x + 0.025$ $y < 1.361x - 0.106$ $z < 0.133$ $53.0 < Y < 100.0$	5Y 8/12 (6Y 8/12)	Strong, brilliant or vivid yellowish orange to Greenish yellow
GREEN	$y > 0.571x + 0.218$ $y < 0.547 - 0.394x$ $x > 0.504 - 0.612y$ $x < 0.392 - 0.261y$ $15.6 < Y < 31.0$	3G 5/6 (3G 5/7)	Weak to light green and Moderate to strong green
WHITE	(No chromaticity specification) $72.5 < Y < 100.0$	N 9.0/ or higher (Renotation not needed)	White
BLACK	(No chromaticity specification) $0.0 < Y < 3.0$	N 2.0/ or lower (Renotation not needed)	Black

reau of Standards) system of color designation are given in Table A. All colorimetric computations are based on ICI Illuminant C.

The subcommittee hopes that all who are interested will send in their comments and criticisms on these two tables. Comments should be sent to the secretary of the Z53 Committee, in care of the American Standards Association, 70 East 45th Street, New York 17, N. Y.

Table B

	RED	YELLOW	GREEN	WHITE	BLACK
Munsell Book of Color[1]	———	7.5Y 8/10	5G 5/8	N 9/ or N 9.4/	N 2/ or N 1/
TCCA Name and Cable No.[2]	Pimento 70042 (6R 4/15)	Lemon Yellow 70205 (5Y 8.4/9.5)	Primitive Green 70167 (5G 4.6/8)	White 70001 (Y=75.3%)	Dark Blue 65012 (Y=2.7%) or Black 65018 (Y=2.7%)
Maerz and Paul Dictionary of Color[3]	———	Plate 9L3	Plate 25 H 12	Plate I A 1	———
Color Harmony Manual[4]	7pa (glossy side)	1pa and 2pa (matte side)	22pa (matte side)	a (matte side)	P (glossy side)
NBS CS63 - 38[5]	SKC-70 Red (5R 3/20)	———	SBC-12 Bath Green (2.6G 6/4.7)	SKC-00 SBC-00 White (N 9.0/)	SC-60 Black (N 0/)
NBS Standard Samples of Paint Pigments[6]	No. 300 Toluidine Red	No. 320 Lemon Chrome Yellow	———	———	No. 311 Carbon Black and No. 312 All-purpose Black
NBS TS - 4326[7]	MUP-71 Red	MUP-37 Yellow	———	MUP-01 White	MUP-60 Black

NOTE—[1] Munsell Color Company, Baltimore, Md.
[2] Textile Color Card Association of the United States, Inc, New York, N. Y.
[3] Obtainable from McGraw-Hill Book Co, New York, N. Y.
[4] Issued by the Container Corporation of America, Chicago, Ill.
[5] Commercial Standard, Colors for Bathroom Accessories, National Bureau of Standards, Washington, D. C.
[6] Samples issued by the Standard Samples Section, National Bureau of Standards
[7] Recommended Commercial Standard for Colors for Molded Urea Plastics, January 30, 1947, National Bureau of Standards.

Record Attendance At N. Y. Safety Convention

The development of standards for safety footwear is being resumed on a peacetime level, Henry G. Lamb, safety engineer of the American Standards Association, told members at a session of the 17th Annual Safety Convention and Exposition of the Greater New York Safety Council, March 25 through 28.

"Since the end of the war," said Mr Lamb, "the regular peacetime committee on protective occupational footwear has resumed its activities. It is anticipated that this committee will review the war standards on the basis of taking out any thought of limiting the types and varieties of safety shoes, but retaining adequate performance requirements and methods of test in order to be sure that shoes made in accordance with these specifications will provide adequate protection to the workers."

This was only one of 45 sessions, held at the Hotel Pennsylvania, which broke all previous records with an attendance of 14,000. Two hundred eighty-five speakers, including safety engineers, police officials, educators, and other public figures from all over the nation addressed these sessions devoted to virtually every phase of safety from the need to guard against new kinds of accidents in the age of jet propulsion and atomic energy to homely hints to housewives and ways of reducing the present highway death and injury toll.

Forty-four national and local organizations, including the American Standards Association, cooperated with the Greater New York Safety Council in making this convention a success.

Company Member Committee Appoints Fact-Finding Subgroups

SUBJECTS of special concern to the standards departments of ASA member companies were discussed at the meeting of the Company Member Committee at Washington March 20. Among the problems considered by the committee were trimmed sizes of standards, sizes of vendors' catalogs, the use of gage numbers versus decimal identification, applied finishes, and knurling tools.

Drafting Practice—

Interest in the adoption of standard drafting practices has been growing so rapidly recently that the Company Member Committee has decided to set up a subcommittee to make a study of present company practices, particularly in relation to the recently approved American Standard Drawings and Drafting Room Practice, Z14.1-1946 and American Standard Abbreviations for Use on Drawings, Z32.13-1946.

Nomenclature for Metal End Products—

A fact-finding subcommittee has been appointed to study the present status of nomenclature for metal end products, such as sheet, strip, bar, etc, with special reference to whether the terms properly apply only to processes of manufacture or can be defined in terms of cross-sectional dimensions.

Applied Finishes—

As discussed at the Company Member Committee meeting, this subject seemed to present a variety of problems, which included specifications for color, amount of gloss, and reflectance, as well as the question whether it is possible to prepare performance requirements for applied finishes. Because of this uncertainty, the committee voted to ask the American Standards Association to canvass its member associations to find out what is now being done on the problem of applied finishes.

Gage Numbers Versus Decimals of an Inch as Designations—

Screw Threads. Some Company Members reported that they had found it helpful to designate sizes for screw threads in decimals of an inch, whereas the present American Standard for Screw Threads, B1.1-1935, designates the smaller sizes in gage numbers. After considerable discussion, it was decided that engineers would find it helpful if the decimals of an inch were used and appeared first in tables where screw threads or parts are designated by gage numbers. This is particularly true in the standards for screw threads, it was stated. It is planned that a request that this be considered in the next revision of the screw thread standards will be made to the Sectional Committee on Screw Threads, and to other sectional committees handling allied problems.

Twist Drills. There has been some question, it was stated at the meeting, as to whether twist drills made and marked in accordance with American Standard B5.12-1940, which lists the size designations for twist drills in decimals, could be obtained from jobbers and drill manufacturers. During the discussion it was reported that some of the drill manufacturers are now supplying drills in accordance with this standard. It was suggested that any Company Members desiring to purchase drills made in accordance with the standard advise the secretary of the Company Member Committee, care of the American Standards Association.

Preferred Thicknesses for Uncoated Thin Flat Metal. The Company Member Committee has voted to refer this subject to its Subcommittee on Acceptance of American Standards for review.

Glass Bottles—

At the meeting some members believed that additional standardization of dimensions for glass bottles might be helpful in solving packaging and storing problems. As a result of the discussion, a subcommittee will be organized to study the problem and see if further standardization of glass bottles would be advantageous.

Gage Glass Tubing—

A suggestion for standardization of the glass gages used to show the levels of water, oil, or other liquids was referred to the Administrative Committee of the Company Member Committee. Company Members concerned with this subject were asked to advise the secretary of the CMC, so that he can pass this information along to the Administrative Committee.

Knurling Tools—

The Company Member Committee decided to set up a fact-finding subcommittee to study the problem of standards for knurling tools. This action was taken as the result of a proposal which suggested that among the advantages that could be expected from such standardization was the possibility of obtaining good tracking on diameters that are in accordance with American Standards on allowances and tolerances for cylindrical parts and limit gages, B4. As a result of this, it was stated, the need for machining before knurling would be greatly reduced. In addition, standardization might be expected to result in a simplified method of selecting the proper pitch, and in a great reduction in the required number of knurling tools.

Size, Style, and Format of American Standards—

As the result of a questionnaire to members of the Company Member Committee, which showed that the large majority use the 8½ x 11 in. size for their own standards and prefer that American Standards be published in that size, the subcommittee on this subject recommended that all proposed and approved American Standards published by the American Standards Association be 8½ x 11 in. with ⅛ in. tolerance. The sub-

committee also recommended that all standards approved as American Standards and printed by sponsor organizations or Member-Bodies be published in one of the four following sizes: 8½ x 11 in.; 6 x 9 in.; 5¼ x 7⅝ in.; 4 x 6¼ in. This allows for such widely used standards as those published by the American Society for Testing Materials (6 x 9 in.) and the National Electrical Code (4 x 6¼ in.). As a means of more clearly identifying American Standards, the subcommittee also recommended that the ASA symbol, the words "American Standard," and the ASA designating number and date appear in the upper right-hand corner of the cover page of all American Standards published by Member-Bodies. The Company Member Committee approved these three recommendations and voted to submit them to the American Standards Association.

Size of Vendors' Catalogs—

Discussion during the committee meeting indicated that vendors' catalogs are more easily used if they can be kept in file drawers. For this reason, the committee decided to make a suggestion that advertisers adopt the 8½ x 11 in. size for catalogs and similar material containing technical data intended for filing. However, they suggested that a smaller size be used for handbooks which may be kept in bookcases or on desks. The committee expects to recommend that the American Standards Association consider the initiation of a project to develop standard sizes for vendors' catalogs.

New Representatives on ASA Standards Council

THE following new appointments have been made to the Standards Council of the American Standards Association:

Aluminum Association—

E. G. Fahlman, president, the Permold Company, Ohio;

Donald M. White, secretary, Aluminum Association, alternate.

ASA Telephone Group—

R. G. McCurdy, director of Transmission Apparatus Development, Bell Telephone Laboratories. He now serves on the ASA Sectional Committee on Electric and Magnetic Magnitudes and Units, C61.

Gas Appliance Manufacturers Association—

Harold Massey, assistant managing director, Gas Appliance Manufacturers Association.

Manufacturers Standardization Society of the Valve & Fittings Industry—

John P. Magos, manager, Engineering and Research, Crane Company, who is also a member of the ASA Sectional Committee on Unification of Rules for the Dimensioning of Furnaces for Burning Solid Fuel, B50;

L. W. Kattelle, assistant chief engineer, Walworth Company, who succeeds F. H. Morehead as alternate. Mr Kattelle also serves on the Mechanical Standards Committee, and the ASA Sectional Committees on Pipe Threads, B2; Screw Threads, B1; and Mechanical Refrigeration, B9.

Oxychloride Cement Association, Inc—

Dr G. J. Fink, executive secretary of the Oxychloride Cement Association, who succeeds the late C. Huddleston Bear for his unexpired term ending December 31, 1948.

Portland Cement Association—

William M. Kinney, vice-president, Portland Cement Association;

J. P. Thompson, Portland Cement Association, as alternate. He is also an alternate on the ASA Sectional Committee for Fire Protection and Fire Resistance, A51.

Society of Motion Picture Engineers—

D. E. Hyndman, Eastman Kodak Company, succeeding C. R. Keith.

U. S. War Department—

Lieutenant Colonel Michael M. Karlene, Army Air Force, as alternate for Lieutenant Colonel Carvey, succeeding Lieutenant Colonel G. R. Gaillard.

Left to right: R. G. McCurdy, H. Massey, and D. E. Hyndman.

Lack Is Member of Mobilization Committee

Frederick R. Lack, vice-president of the Western Electric Company, and president of the American Standards Association, has been named as the representative for industrial standards on the new industrial mobilization committee of the Navy Industrial Association, Inc. The committee, which will work under the chairmanship of Thomas P. Archer, vice-president of the General Motors Corporation, representing ordnance, was formed to assist the Army-Navy Munitions Board in the preparation of a national industrial mobilization plan. It will carry on a three-point program, the Navy Industrial Association explains, to assist in coordinating industry's contribution to the board and the services, to act as a liaison between interested groups by supplying information on the mobilization plan, and to assist in acquainting industry, particularly smaller companies, with the importance of the plan to national defense. Eighteen industrialists are members of the committee, representing ordnance; food; chemical industry; iron and steel; glass, fibre, and insulating material; shipbuilding; public relations; lumber and lumber products; optical and precision instrument industry; radio and electronics; industrial and construction machinery; general; industrial standards; rubber industry; petroleum products; machine tool industry; aviation; and nonferrous metals and alloys industry.

In addition to serving as president of the ASA, Mr Lack represents the Institute of Radio Engineers on the ASA Board of Directors.

News from other countries

International Standards Body Is Now Officially Ratified

THE International Organization for Standardization (ISO), set up provisionally at a meeting of 25 nations in London last October, has become the official body for international standardization work following ratification of its constitution and bylaws by the national standards bodies of 15 nations.

The United States, which was the first country to ratify the convention setting up the new organization through approval of the Board of Directors of the American Standards Association, has now been joined by the following 14 countries:

Australia	Standards Association of Australia
Austria	Österreichischer Normenausschuss
Brazil	Associação Brasileira de Normas Técnicas
Chile	Instituto Nacional de Investigaciones Tecnológicas y Normalización
China	Chinese Standards Committee
Czechoslovakia	Ceskoslovenská Spolecnost Normalisacni
Denmark	Dansk Standardiseringsraad
Finland	Suomen Standardisoimislautakunta
France	Association Française de Normalisation
India	Indian Standards Institution
Mexico	Dirección General de Normas, Secretariá de la Economiá Nacional
Sweden	Sveriges Standardiseringskommission
Switzerland	Association Suisse de Normalisation
United Kingdom	British Standards Institution

Difficulties in securing office space at Geneva, Switzerland, which will be the headquarters of ISO, so far have been among the factors delaying the opening of an office, although the technical work of the international organization is going forward.

A committee representing the United States, Great Britain, France, Belgium, Russia, and Brazil is surveying the field to secure a secretary general to take charge of the new permanent ISO office which is expected to be in operation by early autumn. Final decision on the selection of the secretary general will rest with the ISO council representing 11 nations, probably at a meeting at Geneva in June.

Present plans call for the securing of temporary office space in Geneva as soon as conditions permit.

Standard Bus Controls Asked in Britain

British bus and coach manufacturers have been asked by the Public Transport Association and the Municipal Passenger Transport Association to standardize controls in drivers' cabs, according to reports in the London *Motor Transport*.

Specific recommendations made by the two associations include:

"(1) The clutch or gear-striking pedal should be on the left of the steering column; the foot brake should be on the right of the steering column; and the accelerator pedal should be on the off side of the foot brake.

"(2) The hand brake lever should be on the off side of the cab, and should be of the pull-on type.

"(3) The gear-change lever should be mounted either on the near side of the cab or on the near side of the steering column.

"(4) An H-type gate should be adopted, whether for crash-type gears or pre-selector boxes."

Interchangeability in British Beehives

British beehive floors, bodies, roofs, and frames of the same type although constructed by different manufacturers will now be interchangeable according to a new British Standard Specification for beehives, frames, and wax foundations.

This action is the result of a request from the British Beekeepers' Association, supported by the Ministry of Agriculture, that consideration be given to standardization of beehives and beekeeping equipment.

The specification does not provide all of the details necessary for an amateur beekeeper to make his own hives. It is intended, rather, to indicate to the experienced hive builder those dimensions which must be carefully controlled in order to assure interchangeability of parts. In general, design will be left to the ingenuity of the manufacturers in so far as it does not affect this standardization.

Mexican Standards Director Visits ASA Office

Ing Ignacio Aguerrebere, director of the Standards Department of the Mexican Secretariat of National Economy, called at the offices of the American Standards Association while en route to Neuchâtel, Switzerland, where he is to attend an international meeting on trade marks.

He reported that a new building is now being constructed for his Department. Among its features, it will house testing laboratories which will be used in connection with various activities of the Standards Department.

New Standards from Other Countries

These standards from other countries now in the ASA Library may be borrowed by members of the American Standards Association.

Foreign Language Standards

The standards listed below are available only in the language of the country from which they were received.

Argentina

(NIO indicates official standards mandatory for government organizations; NP indicates a provisional standard, not yet official; P indicates a standards project not yet approved for provisional use; LA indicates a list of applications, that is, cases in which the standard applies.)

Accidental Contact Testers, 2045NP
Classification of Rivets, 514NP
Colophony, 1044NP
Conventional Color Markings for the Indication of Values in Capacitors and Resistors, 4040P
Conventional Color Markings for Metallic Piping, 2507NP
Common Putties, 1041NIO
Covered Copper Conductors for Outdoor Lines, 2020NIO
Crude Linseed Oil for General Use, 1001NIO
Electric Voltages and Frequencies, 2001NP
Essence of Turpentine, 1007NP
General Conditions Covering Delivery and Mechanical Testing of Metallic Materials, 101NIO
List of Application of Standard 2001NP—Electric Voltages and Frequencies, 2001-LA
Logarithmic Ruled Paper for Telecommunications Tests, 4032NP
Mechanical Analysis of Aggregates, 1505-NIO
Method of Compression Testing of Rocks, 1510NIO
Method of Testing Dielectric Strength of Apparatus for Domestic Use, 452NP
Natural Iron Oxide Paint Paste, 1034NIO
Organic Paint Removers, 1053NP
Paraffin for Paint Making, 1050P
Permanent White, 1010NIO
Rolled Steel Bars for Bolts, 512NIO
Rolled Steel Bars for Rivets, 505NIO
Rolled Steel Bars for Shipbuilding Rivets, 539P
Rolled Steel Bars of Circular Section for Reinforced Concrete, 502NIO
Semi-Logarithmic Ruled Paper for Telecommunications Tests, 4033NP
Technical Drawing: Folding of Sheets, 4506NIO
Transformers, 2018NP
White Paint Paste, free of Lead Compounds, 1033NP

Argentine State Railroad Specifications

The ASA Library has received from the Ministry of State Railroads of the Republic of Argentina a volume containing 123 standard specifications. These specifications cover a wide field of material equipment used by the Argentine railroad administration, such as: ferrous and nonferrous material, testing methods; refractory material, rails, fishplates, spikes; bolts, nuts, washers, screws; galvanized iron, steel tubing, wire ropes; railroad tools; electrical equipment including telegraph and signal apparatus, electrical cables; lubricants; oil paints; cleansing, disinfectant, and germicidal stuff; chemicals for photographic use; bed and table linen; uniforms; paper and printed form sizes.

France

Agricultural Machinery—
Dimensions of Bag Filling Spout of the Combine, U33-201
Double Plough Brabant Type: Nomenclature, U21-011
Ploughshare, U21-002

Building Industry and Civil Engineering—
Bricks, P13-301
Frame Joints, Series 32-51, P23-409
Frame Joints, Series 37-61, P23-408
Miscellaneous Masonry Material, P14-301
Ship Nails, P26-404
Wooden Frames: Construction Specifications, P21-202

Chemistry—
Asfaltum Paste, T66-001

Combustibles—
Metal Ropes 6 x 7, M81-500
Metal Ropes 6 x 19, M81-501
Metal Ropes 6 x 37, M81-502
Simplified Method For Determination of Moisture, M31-001

Finance, Banks, Insurance, etc—
Instructions for Reproduction of Signatures, K10-30

Fundamental and General Standards—
Preferred Numbers, X01-001

Marine Constructions—
Cargo Boom Heel Pivot, J34-142
Cloth and Hat Peg, J36-241
Cup- and Shell-Type Handles and Lifts, J36-162
Curtain Ring, J36-330
Door Bolt, J36-390
Door Bolt: Bayonet Type, J36-391
Hinges, J36-190
Hinges: Special Type, J36-220
Light Hinges, J31-310
Marine Hardware, Handle and Plate, J36-161
Marine Hardware, Hook and Eye-Plate, J36-130
Marine Hardware, Spring-Type, J36-132
Marine Hardware, with Double Joint, J36-131
Medium Hinges, J31-312
Metallic Pulleys, J34-506
Round Screw Buttons with Nuts, J36-111
Spring Catch, J36-430
Steel Ropes for Hoisting Machinery on Board, J33-150
Two-Way Ball-Type Catch, J36-431

Mechanical Engineering—
Button-Head Rivets, E27-153
Check Valves: Nomenclature, E29-063
Diameter of Eyes of Handle Sockets of Spades and Picks, E78-003

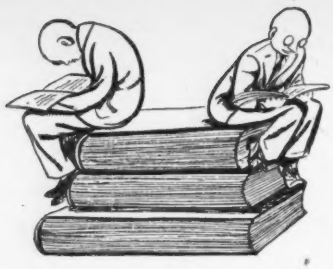
France
Mechanical Engineering—Continued
Electric Hoists: Definition, Nomenclature, E52-060
Electric Hoists for Lifting Bags, E52-061
Faucets: Nomenclature Related Especially to House Plumbing, E29-065
Faucets and Stops: Nomenclature Related Especially to House Plumbing, E29-066
Fin-Neck Carriage Bolt with Countersunk Head, E27-355
Flat-Head Rivets, E27-151
Globe Valves: Nomenclature Related Especially to House Plumbing, E29-064
Lathes: Sense of Rotation, Location of Handwheels, E62-011
Overhead Tracks for Travelling Hoists: Nomenclature, E52-058
Pick Axes, Mechanical, E58-026
Pipes: Nominal Pressure, Working Pressure, Testing Pressure, E29-002
Ratchet Jack Ordinary Type: Lifting Power and Dimension, E52-071
Rivets with Countersunk Heads, E27-154
Round-Way Cocks: Nomenclature, E29-061
Single and Double-Rail Tracks for Hand- and Electric-Hoists, E52-059
Square-Neck Carriage Bolt with Countersunk Head, E27-354
Steamrollers, E52-025
Truss-Head Rivets, E27-152
Valves, Various Types: Nomenclature, E29-060
Various Types of Faucets: Nomenclature, E29-062

Metallurgy—
Cold-Drawn Pipes, Circular Section, A68-101
Electrodes for Arc Welding, A81-309
Hot-Rolled Half-Round Bars, A45-070
Hot-Rolled I-Beams, Series HE, A45-202
Hot-Rolled I-Beams, Series HN, A45-201
Hot-Rolled Plates, A45-040
Hot-Rolled Unequal Angle Bars, A45-101
Mechanical Testing Procedure, A03-002
Steel Sheets of General Use: Medium and Heavy, A36-208

Paper and Paste Board—
Manifolds: General Specifications, Q31-006
Paper and Paste Board for Manifold, Q11-010
Paper Felt and Paste Board to be Impregnated with Bituminous Material, Q15-011
Paper Specifications for Butchers, Q12-002
Photographic Albums, Q31-007

Railroad and Tramway Material—
Buffers with Helicoidal Springs, F10-002
Coupling Device: Assembled, F10-004
Coupling Device: Component Parts, F10-003
Dimensions of Toilet Room Bowl, F01-038
Dimensions of Washroom Basin, F01-036
Dimensions of Washroom Basin, Corner Type, F01-037
Intercarriage Diaphragm Dimensions, F01-406
Method of Coupling Intercarriage Diaphragm, F01-405
Name-Plates for all Carriages except Locomotives, F01-034
Plate Certifying Acceptance of Carriage, F01-035

Book Marks



A Bibliography of Statistical Quality Control. By Grant I. Butterbaugh (Bureau of Business Research of the College of Economics and Business, University of Washington, Seattle, Washington, $1.50)

This carefully annotated bibliography pertaining to statistical quality control contains approximately 340 authors as represented in the 712 articles, manuals, and books listed herein. The articles appeared in 137 different periodicals and were published in the United States, England, Canada, and Australia during the period from 1924 through 1945.

Accident Prevention Manual for Industrial Operations (National Safety Council, Inc, 20 North Wacker Drive, Chicago 6, Ill., $14.00)

For some years there has been need for a compact source of basic information on accident prevention in industry. Many safety agencies have published the results of their various experiences and research in many forms but, until the publication of this manual by the National Safety Council, there had not been a single volume which would serve as ready reference for the safety director in solving his accident prevention problems. Prepared by the engineering staff of the Industrial Division of the Council, with the assistance of the Statistical, Traffic, and Transportation Divisions on problems relating to their fields, the manual sets forth the principles of safety for activities in which the great majority of manufacturing industrialists engage.

This is a well-indexed handbook on the subject, with frequent illustrations. Specific chapter headings such as these break the problems down into minute detail: Guarding and Operating Machinery; Materials Handling and Storage; Electrical Hazards; Chemical Hazards; Fire and Explosion Hazards; Flammable Liquids; Hand and Portable Power Tools; Commercial Vehicle Operation; Personal Protective Equipment; Industrial Hygiene. Information may also be found upon such general subjects as the organization of a good safety program, or the problems involved in plant design and layout.

Frequent reference is made to American Standard safety codes, many of which have been developed through sectional committees sponsored by the National Safety Council, a Member-Body of the ASA. Among those used as a basis for recommendations are: Floor and Wall Openings, Railings and Toe Boards, A12-1932; Electric and Gas Welding and Cutting Operations, Z49.1-1944; Inspection of Elevators, A17.2-1945; Power Presses and Foot and Hand Presses, B11-1937; Prevention of Dust Explosions, Z12; Use, Care and Protection of Abrasive Wheels, B7-1943; and Marking Compressed Gas Cylinders to Identify Content, Z48.1-1942.

ASTM Standards on Petroleum Products and Lubricants (American Society for Testing Materials, 1916 Race Street, Philadelphia 3, Pa., $4.00)

In addition to some 130 ASTM test methods, specifications, and definitions of terms relating to petroleum products, the December 1946 compilation of petroleum standards published by the American Society for Testing Materials includes three proposed tests published in draft form to elicit constructive criticism and comment. These tests cover the sulfated residue of lubricating oils, phosphorus in organic materials, and aromatic hydrocarbons in mixtures with naphthenes and paraffins by silica gel adsorption. This new edition has been expanded by the inclusion of numerous specifications covering aromatic hydrocarbons—various grades of benzene, naphthas, toluenes, and xylenes. Many of the test methods are issued in revised form, and a number of the procedures are new.

Industrial Research Laboratories of the United States Including Consulting Research Laboratories. Eighth Edition (National Research Council, National Academy of Sciences, Washington, D. C., $5.00)

With the publication of Bulletin Number 113, the National Research Council has issued the eighth edition of its directory. The first appeared in 1920 and contained a list of 297 companies which maintained industrial research laboratories. With each new edition since that time, effort has been made to reach laboratories not heretofore included, as well as new ones more recently established. The data included in this edition were received during the period August 1945 through January 1946. An appendix has been included for the first time, listing colleges and universities which offer research service to industry.

Specification for the Design of Light Gage Steel Structural Members (American Iron & Steel Institute, 350 Fifth Avenue, New York 1, N.Y. Single Copy, Free.)

Official industry standards for light gage steel which will make possible broader use of the material in certain types of building construction have been issued by the American Iron and Steel Institute as the result of studies begun in 1939 under the Building Code Committee of the Institute.

The specification consists of design provisions governing shapes made up of flat or straight elements such as most commonly encountered in the design of structural members formed of light-gage steel. To simplify the design procedure, design tables, curves, and charts have been included, along with four appendices which deal with problems of application of the specification.

The Decibel Notation. By V. V. L. Rao (Chemical Publishing Company, Inc, Brooklyn, N. Y., $3.75)

Originally published in Madras, India, this is a compilation of widely scattered data on decibel notation, including a survey of the development of the logarithmic unit, zero levels and level signs, decibel meters and decibel graphs, sound levels and phon calculations, etc. This first American edition corresponds to the original publication which accounts for the use of certain British terms.

Rudolph P. Miller

As an expression of the deep sorrow that has been felt through the recent death of Rudolph P. Miller, "dean" of building code experts in the United States, members of the ASA Building Code Correlating Committee have adopted a resolution which reaffirms their efforts to complete the program for which he pioneered.

WHEREAS, Rudolph P. Miller was for more than fifty years a discerning leader and staunch supporter of research and engineering as the basis for the reduction of hazards in building construction and operation, and

WHEREAS, Mr Miller's work was widely recognized, both by those with whom he has been closely associated and by the casual client, as having that highest degree of professional integrity, so essential to real public service, and

WHEREAS, The Building Code Correlating Committee of the American Standards Association was especially fortunate through Mr Miller's membership since the committee was organized, and has benefited through his gracious and wise guidance for the nine years he served as its chairman, much of this time at personal sacrifice, therefore be it

Resolved, That the BCCC express its deep sorrow in the recent death of Mr Miller and reaffirm its conviction that its memorial to Mr Miller is to be a renewed and increased effort to complete the program he so long pioneered, and be it further

Resolved, That a copy of this resolution be sent to Mr Miller's family and also be spread on the minutes of the Building Code Correlating Committee.

Westinghouse Distributes American Standards

In order to obtain the maximum availability of American Standards the Headquarters Standards Section of the Westinghouse Electric Corporation maintains a complete file of American Standards, with several duplicate copies of those publications which are most likely to be in demand by the electrical industry. When an individual requires a copy of any particular standard he can call by telephone and it will be sent to him immediately. If a man from one of the divisions outside of the Pittsburgh District wants a standard, he also may wire or write Westinghouse Headquarters and the publication will be sent to him without charge by the next mail, or, of course, if he prefers, he may order directly from the American Standards Association. This might sometimes be preferable, if he is in the New York area.

As an additional service, when a new standard of especial and general interest appears, such as those on electrical and graphical symbols, copies are sent to all division engineering managers and standards engineers, urging that these new standards be called to the attention of the interested designers and draftsmen and that they be adopted as soon as feasible.

We understand that some other organizations also maintain central files of American Standards. Those of us who follow such a procedure have found it well worthwhile and urge the practice on all organizations which have sufficiently diversified interests to warrant it.

—Thomas Spooner
Manager, Engineering Laboratories
Westinghouse Electric Corp

Three-Day Annual Meeting Will Be in October

A three-day annual meeting, which will include meetings of correlating committees, the Board of Directors and Standards Council, and possibly some sectional committees, as well as the regular general luncheon and dinner meetings, has been scheduled for October 21, 22, and 23, at the Waldorf-Astoria, New York.

New Standards in —ASA Library—

Associations and Technical Societies

These standards may be consulted by Members at the ASA Library or copies may be obtained from the organization issuing the standard.

National Commission on Safety Education, National Education Association
(1201 16th Street, N. W., Washington 6, D. C.)

Minimum Standards for School Buses, 1946—This is a revision of those minimum uniform safety standards for safety and economy in school bus construction adopted by the National Conference on School Bus Standards in 1939. At another conference held in 1945 and again sponsored by the National Council of Chief State School Officers, these standards were modified and revised. Their adoption and enforcement by the states is urged by the Council in the belief that uniformity of standards for school buses will assure safety in construction, and will make possible mass production with lower costs.

National Electrical Manufacturers Association
(155 East 44th Street, New York 17, N. Y.)

Laminated Thermosetting Products, Pub No. 46-118, August 1946, 35¢
Power Circuit Breakers, Pub No. 46-116, July 1946, $5.00
Distribution Transformers: Three-Phase Pole Type—150 KVA and Smaller 15,000 Volts and Below, Third Report, Pub No. 112, June 1946, 50¢

National Safety Council
(20 North Wacker Drive, Chicago 6, Illinois)

Accident Facts, 1946, 50¢

State of California Department of Industrial Relations Division of Industrial Safety
(593 Market Street, San Francisco 5, Calif.)

Petroleum Safety Orders—Refining, Transportation and Handling, July 1946

Underwriters' Laboratories, Inc
(161 6th Avenue, New York 13, N. Y.)

Standard for Temperature-Indicating and Regulating Equipment, Third Edition, January 1947

U. S. Government

(Wherever a price is indicated, the publication may be secured from the Superintendent of Documents, Government Printing Office, Washington, D. C. In other cases, copies may be obtained from the government agency concerned.)

Specifications Division, Standards Branch
(Room 6052 Procurement Bldg., 7th and D Streets SW, Washington 25, D. C.)

The complete status of Federal specifications work may be obtained by writing to the above address for a copy of the list "Specifications Work in Progress by the 77 Technical Committees", together with latest supplements.

U. S. Department of Commerce National Bureau of Standards
(Washington 25, D. C.)

Furnaces, Warm-Air (Equipped with Oil-Burners, Vaporizing, Pot-Type), CS104-46, 10¢

U. S. Department of the Interior Bureau of Mines
(Washington, D. C.)

Inspection Standards for Strip Mines (Coal and Lignite), Revised October 1945, Information Circular 7350, March 1946

U. S. Department of Agriculture Production and Marketing Administration
(Washington 25, D. C.)

Bunched Shallots, December 1946
Canned Dried Beans, January 1947, (To Supersede Those Issued January 1934)
Canned Grapefruit Juice, November 1946, (To Supersede Those Issued December 1941)
Canned Orange Juice, November 1946, (To Supersede Those Issued December 1942)
Canned Tangerine Juice, January 1947
Dates, January 1947
Processed Raisins, October 1946, (To Supersede Those Issued March 1942)

ASA Standards Activities

American Standards Approved

Basic Graphical Symbols for Electric Apparatus, Z32.12-1947
Sponsors: American Institute of Electrical Engineers; American Society of Mechanical Engineers

Motion Picture Photography—
- Dimensions for Motion Picture Theater Projection Rooms, Z22.28-1946 (Revision of American Recommended Practice for Motion Picture Theater Projection Rooms, Z22.28-1941)
- Dimensions for Motion Picture Theater Projection Screens, Z22.29-1946 (Revision of American Recommended Practice for Motion Picture Theater Projection Screens, Z22.29-1941)
- Definition for Motion Picture Safety Film, Z22.31-1946 (Revision of American Recommended Practice for Motion Picture Safety Film, Z22.31-1941)

Sponsor: Society of Motion Picture Engineers

Still Photography—
- Dimensions for Industrial X-Ray Sheet Film (Inch Sizes), Z38.1.25-1947 (Revision of Z38.1.25-1944)
- Dimensions for Graphic Arts Sheet Film (Inch Sizes), Z38.1.26-1947 (Revision of Z38.1.26-1944)
- Dimensions for Medical X-Ray Sheet Film (Inch and Centimeter Sizes), Z38.1.27-1947 (Revision of Z38.1.27-1944)
- Dimensions for Professional Portrait and Commercial Sheet Film (Inch Sizes), Z38.1.28-1947 (Revision of Z38.1.28-1944)
- Sensitometry of Photographic Papers, Z38.2.3-1947
- Distance Scales Marked in Feet for Focusing Camera Lenses, Z38.4.3-1947 (Revision of American Standard for Distance Scales Marked in Feet, Z38.4.3-1942)

Sponsor: Optical Society of America

Limits and Fits for Engineering and Manufacturing, B4.1-1947
Sponsor: American Society of Mechanical Engineers

Gray Iron Castings, Specifications for, ASTM A48-46; ASA G25.1-1947 (Revision of ASTM A48-41; ASA G25.1-1942)

American Standards Reaffirmed

Rules for Rounding Off Numerical Values, Z25.1-1940 Reaffirmed 1947
Fire-Hose Coupling Screw Thread, B26-1925 Reaffirmed 1947

Standards Being Considered for Approval

Methods of Testing Molded Materials Used for Electrical Insulation (Revision of ASTM D48-46 T; ASA C59.1-1944)
Sponsor: American Society for Testing Materials

Building Code Requirements for Steel Joist Construction, A87.1
Sponsors: American Iron and Steel Institute; American Society of Civil Engineers

Standards Being Considered for Approval—Continued

Practice for Certification Procedures, Z34.1
Sponsor: Association of Consulting Chemists and Chemical Engineers, Inc

Socket Head Cap Screws and Socket Set Screws, B18.3 (Revision of ASA B18.3-1936)
Slotted and Recessed Head Screws, B18.6 (Revision of ASA B18c-1930)
Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

Shaft Couplings, Integrally Forged Flange Type for Hydro-Electric Units, B49.1 (Revision of ASA B49-1932)
Sponsor: American Society of Mechanical Engineers

Practice for Street and Highway Lighting, D12
Sponsor: Illuminating Engineering Society

Standards Being Considered for Reaffirmation

Gas-Burning Appliances—
- Listing Requirements for Flexible Gas Tubing, Z21.2-1938
- Approval Requirements for Private Garage Heaters, Z21.4-1932
- Approval Requirements for Clothes Dryers, Z21.5-1940
- Approval Requirements for Incinerators, Z21.6-1932
- Approval Requirements for Gas Heated Ironers, Z21.7-1932
- Approval Requirements for Hot Plates and Laundry Stoves, Z21.9-1940
- Listing Requirements for Draft Hoods, Z21.12-1937
- Approval Requirements for Industrial Gas Boilers, Z21.14-1934
- Approval Requirements for Gas Unit Heaters, Z21.16-1940
- Approval Requirements for Refrigerators Using Gas Fuel, Z21.19-1941
- Listing Requirements for Automatic Pilots, Z21.20-1940
- Listing Requirements for Automatic Main Gas-Control Valves, Z21.21-1935
- Listing Requirements for Relief and Automatic Gas Shut-Off Valves for Use on Water Heating Systems, Z21.22-1935
- Listing Requirements for Gas Appliance Thermostats, Z21.23-1940
- Listing Requirements for Semi-Rigid Gas Appliance Tubing and Fittings, Z21.24-1941
- Listing Requirements for Attachable Water Heating Units, Z21.26-1941
- Approval Requirements for Portable Gas Baking and Roasting Ovens, Z21.28-1941
- Listing Requirements for Furnace Temperature Limit Controls and Fan Controls, Z21.29-1941
- Approval Requirements for Gas Counter Appliances, Z21.31-1941
- Listing Requirements for Gas Appliance Connectors of Flexible Metal Tubing and Fittings, Z21.32-1942
- Requirements for Installation of Gas-Burning Equipment in Power Boilers, Z21.33-1942
- Approval Requirements for Gas-Fired Duct Furnaces, Z21.34-1942

Sponsor: American Gas Association

Standards Being Considered for Reaffirmation—Continued

Engineering and Scientific Charts for Lantern Slides, Z15.1-1932
Time-Series Charts, Manual of Design and Construction, Z15.2-1938
Engineering and Scientific Graphs for Publications, Z15.3-1943
Sponsor: American Society of Mechanical Engineers

Manhole Frames and Covers for Subsurface Structures, A35.1-1941
Sponsors: American Society of Civil Engineers; ASA Telephone Group

National Electrical Safety Code, C2—
- Safety Rules for Installation and Maintenance of Electrical Supply Stations, C2.1-1941 (NBS Handbook H31)
- Safety Rules for the Installation of Electric Supply and Communication Lines, C2.2-1941 (NBS Handbook H32)
- Safety Rules for the Installation and Maintenance of Electric Utilization Equipment, C2.3-1941 (NBS Handbook H33)
- Safety Rules for the Operation of Electric Equipment and Lines, C2.4-1939 (NBS Handbook H34)
- Safety Rules for Radio Installations, C2.5-1940 (NBS Handbook H35)

Sponsor: National Bureau of Standards, U.S. Dept of Commerce

American Standard Withdrawn

Fader Setting Instructions for Motion Picture Theatres, Z22.32-1941
Sponsor: Society of Motion Picture Engineers

Withdrawal of Approval Being Considered

Approval Requirements for Gas Hair Dryers, Z21.25-1937
Sponsor: American Gas Association

Standards Submitted

Tinned Soft or Annealed Copper Wire for Electrical Purposes, Specifications for (Revision of ASTM B 33-39; ASA H4.4-1940)
Bronze Trolley Wire, Specifications for (Revision ASTM B 9-39; ASA H4.5-1940)
Copper Trolley Wire, Specifications for (Revision of ASTM B 47-39; ASA H4.6-1940)
Sponsor: American Society for Testing Materials

New Projects Being Considered

Standards in Optics
Steel Raceways for Electrical Wiring Systems

New Projects Requested

Specifications for Building Granite (Requested by the National Building Granite Quarries Association Inc)
Safety Code for Industrial Power Trucks (Requested by the American Society of Mechanical Engineers)
Terminology for Automotive Lighting Equipment (Requested by the War Department, Ordnance Department)

News About ASA Projects

Automotive Lighting Equipment—

Due to the fact that there is no authoritative terminology for automotive lighting equipment which distinguishes between the complete lighting device and the lamp or bulb which provides the source of illumination, it has been suggested by the Office of the Chief of Ordnance of the War Department that the American Standards Association organize a project to standardize nomenclature for automotive lighting equipment.

Building Granite—

The National Building Granite Quarries Association has requested the American Standards Association to initiate a project to standardize specifications for building granite. The matter has been informally discussed with various architects and engineers, including the office of Robert Moses, coordinator of building materials for the City of New York. Since the NBGQA consists of members who produce a large percentage of the building granite in the United States, it feels properly qualified to make a request of this nature and to offer to serve as sponsor. It is suggested that the scope, in general, should cover finishes, joints, tolerances, and possibly setting. This request will be referred to the Board of Examination for recommendation to the Standards Council.

Highway Traffic Standards Committee—

The Illuminating Engineering Society has submitted the "Recommended Practice for Street and Highway Lighting" to the American Standards Association for approval as an American Standard Practice. A letter ballot of the Highway Traffic Standards Committee is now being taken prior to submittal to the Standards Council for final action. Should the standard be approved by the ASA, it would be known as the "American Standard Practice for Street and Highway Lighting, D12."

Since 1925, the Illuminating Engineering Society has had an active committee charged with the task of establishing scientific principles underlying street and highway lighting. Its work has included the collection of data on which to base principles for actual practice which will assist highway technicians and regulatory bodies responsible for highway lighting.

This committee, from its inception, has consisted of personnel of diversified background and experience. It has drawn its membership from universities, consulting engineers, governmental agencies, laboratories, manufacturers, and electrical supply companies.

Since the Recommended Practice is the only publication of its kind and represents the combined efforts of all those directly concerned with street and highway lighting, it has become an authoritative guide widely used by consulting engineers, public officials, manufacturers, and public utilities installing and maintaining such systems. Its provisions are often quoted by the professional, trade, and other safety publications.

Approval by the ASA as an American Standard will further enhance its acceptability in highway lighting practice.

Office Standards, X2—

Representatives of 40 organizations vitally interested in the development of standards for supplies, equipment, and procedures used in offices throughout the country will meet at the Waldorf-Astoria in New York on May 6 to organize a nationwide office standards project. Mexico and Canada have also been invited to send representatives with the aim of furthering coordination of the office standards of the three countries.

In approaching the selection of organizations to participate in the project, it was recognized that the number having an interest in office problems is practically unlimited. To have all of them represented on either the ASA sectional committee or subcommittees would be impractical. Accordingly, the list has been limited to those whose activities are defined below:

(a) those in which office functions represent major or sole activity;

(b) those who manufacture or deal in products used in the office;

(c) those whose office products reach the general public in sizable quantities;

(d) those whose professional function has a direct application to the office.

ASA procedure generally requires that sectional committees be both representative and in balance with respect to producers, distributors, consumers, and general interests. Exhaustive study has demonstrated that this is impractical in the case of the office standard project even within the limitations established by the activities described above, due to extreme breadth and varying degrees of interest represented by the various organizations. Therefore, it has been agreed to create a sectional committee representative of the broad general interests and to build up the subcommittees in such a way as to give them a balanced representation of all basic interests.

Under each of the subcommittees there will be many subgroups dealing with the strictly technical aspects of the project. As these groups need not be balanced or representative, highly qualified, competent technical personnel will be sought for participation in the project. They will collect and study standards information and prepare drafts for consideration by the subcommittees. The membership of these subgroups is not limited to subcommittee members or to association members.

The ASA committee in charge of the office standards project will be under the chairmanship of Robert E. Shull, Socony Vacuum Oil Company, representing the National Office Management Association; James J. Murphy of the American Telephone and Telegraph Company, representing the Telephone Group, is vice-chairman; Charles E. Hilton of the American Standards Association is secretary.

Advertise Use of Standard Color Code

In revising its valve bulletin, the Foxboro Company, Foxboro, Massachusetts, manufacturer of industrial instruments and equipment for measurement and control, has included a color page showing the various identifying enamel finishes offered on Stabilflo valves. These colors, the company advertises, are in accordance with the color code of the American Standards Association for the identification for piping systems, A13-1928. The company's latest publication is entitled "Pneumatic Control Valves and Controller Accessories—Bulletin 277-1."

Among its other features are: plates and tables of specifications for control valves, needle-type valves, poppet valves, and butterfly valves; separate sections on the Vernier Valvactor for high-accuracy positioning of valve plungers, and on air switches and subpanels for remote valve control.

Building Code Committee Reports on Status of Work

(*Continued from page* 92)

principle that building codes should be based on performance standards wherever possible, set up a subcommittee to work with governmental agencies and others interested in extending this principle. At the recent BCCC meeting, it was reported that the National Housing Agency will shortly issue a pamphlet of this subject. It was further reported that the American Society for Testing Materials, through its Committee E-6 on Methods of Testing Building Constructions is developing methods that will determine the adequacy of new materials and types of construction. This program when completely developed will furnish engineers, architects, and building officials with some technical guides as the basis for incorporation of sound standards into building codes.

Safety Code for Industrial Power Trucks—

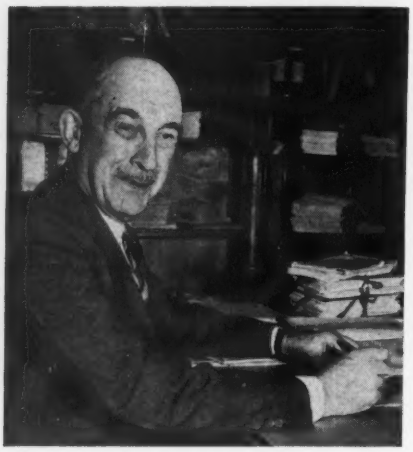
The ASA Safety Code Correlating Committee is now considering a request from the American Society of Mechanical Engineers that a new project be initiated to develop an American Standard safety code for industrial power trucks. The original suggestion for the project was made at a technical session sponsored by the Society's Materials Handling Division. Should this recommendation receive the approval of the ASA, the ASME is willing to serve as a sponsor or joint sponsor of the project.

Domestic and Foreign Standards In Library for ASA Members

Assistance in locating standards material is offered by new technical service engineer and enlarged library staff

As part of its over-all program of placing increased services at the disposal of its members, the American Standards Association is pleased to announce an expansion in the facilities of the ASA Library.

Greater assistance is being provided to ASA members and nonmembers



Eugene Somoff

through the services of Eugene Somoff, technical service engineer. His help will be available in locating standards material from other countries, making title translations of foreign standards, and conducting research in standards on specific subjects upon request. Mr Somoff has already undertaken surveys for the national standardizing bodies of France, Great Britain, and the Netherlands.

To make these increased library services possible, the Library's material has been transferred to new quarters in room 3719 of the Grand Central Terminal Building. With more adequate lighting and additional space, this new location is being suited to the needs of the visitors who use the Library as a source for reference work.

Both of these changes are actually a recognition on the part of the ASA of the increasing interest throughout industry in what the Library has to offer. As one of the most important tools for the dispensing of public information concerning standards, the Library has long been in need of larger quarters in which to handle its ever-growing number of requests. With the reactivation of foreign standardizing bodies, too, tremendous amounts of new material must be sorted, classified, and filed. To aid Hertha Wiegman, the Librarian, in meeting this task, a full-time clerical assistant has been appointed.

The Library, at the present time, contains an estimated 30,000 standards, specifications, and related material. Between 500 and 600 volumes fill the various shelves—a relatively small number due to the fact that most standards reference material is published in pamphlet or sheet form.

National standards from 30 foreign countries are on file. These may be borrowed, purchased, photostated, or used in the Library for reference. Most of them are in the language of the country of origin but Mr Somoff, as indicated above, will provide translations. Indexes to the standards of most of these countries are also available. (Most recent is a collection of Russian standards complete with a 1946 index.)

Also on file are domestic standards, including those of technical societies, trade associations, and government departments. Among the latter are Army specifications, Navy specifications, Army-Navy specifications, Joint Army-Navy specifications, Federal Specifications, Commercial Standards, and Simplified Practice Recommendations.

Member lists of trade associations, technical societies, and some government departments, together with lists of their publications, constitute a valuable source of information.

As a national reference bureau for information on all questions pertaining to standardization, the staff is kept more than busy by letters and phone calls, as well as in-person visits from people interested in standards. The war, particularly, caused a tremendous interest in standards and the years 1940 through 1946 brought a bombardment of questions from sources all over this country and abroad. Typical of some of the inquiries received are those regarding:

a California ruling on flammability of textiles—an article in INDUSTRIAL STANDARDIZATION of August 1945 helped to answer this . . .
the name of a new association in the field of quality control . . .
the Universal Decimal Classification which is being published in sections as British Standards—the complete set is not yet available . . .
draft standards on surface roughness and involute splines . . .
international metric threads—Dr Gaillard's article on this subject which also appeared in INDUSTRIAL STANDARDIZATION for August 1945 gives the answer to most of the questions . . .

In addition, there are such requests as these:

from India comes a question concerning subject headings used in the ASA Library;
Australia asks about standards in the United States for milk bottles and other milk containers;
a firm wishes to borrow standards on drycleaning fluids;
an aircraft plant in California is interested in looking over a number of French drafts in the aeronautical field;
a university wants to borrow German standards, as does a New York firm;
a firm in Buenos Aires requests domestic standards on vegetable oils;
a company in California asks for "foreign books similar to French's *Engineering Drawing*."

Hertha Wiegman

With the increase in staff and in floor space, the Library is now able to do a more thorough job in answering these varied requests.

New American Standards Available

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No. of Copies	ASA Number	Title and Description of Standard	Price
.....	B5.15-1946	**Involute Splines, Side Bearing** ..... This is a revision of the 1939 edition, intended to make the standard more flexible in order to meet all industrial requirements. The main feature is the use of varying diametral pitches for control of tooth size. It also covers dimensioning of drawings, clearance for fits, tolerances on dimensions, selection of tools, and methods of inspection.	$1.00
.....	C1-1946	**National Electrical Code (NBFU Pamphlet No. 70)** ..... Among the many important changes made in the 1940 edition of the code is the inclusion of new information concerning circuit conductors and their insulation, prefabricated buildings, infrared lamp industrial heating appliances, distribution within consumer premises, electric discharge types of lamps, and safeguarding in airplane hangars, gasoline dispensing and service stations, and bulk storage plants.	.10
.....	H24.1-1946	**Slab Zinc (Spelter), Specifications for (ASTM B6-46)** ..... Last revised in 1937, the newest edition covers specifications for slab zinc (spelter) made from ore or other material by a process of distillation or by electrolysis, in six grades, as follows: special high grade, high grade, intermediate, brass special, selected, prime western. These specifications do not cover zinc produced by "sweating" or remelting of secondary zinc.	.25
.....	Z10.12-1946	**Letter Symbols for Chemical Engineering** ..... This is the eighth standard in the American Standard letter symbols series but the first to provide letter symbols for chemical engineering. Recommendations for the use of superscripts, for resolving conflicts in the use of symbols, and for typography are included.	.50
.....	Z12.1-1946 Z12.3-1946 Z12.6-1946 Z12.7-1946 Z12.8-1946 Z12.9-1946 Z12.11-1946 Z12.12-1946 Z12.13-1946 Z12.15-1946 Z12.16-1946 Z12.17-1946	Coal Systems, Pulverized Flour and Feed Mills Sugar and Cocoa, Pulverizing Systems Coal Pneumatic Cleaning Plants Wood Flour Manufacturing Establishments Spice Grinding Plants Aluminum Bronze Plants Sulphur Country Grain Elevators Magnesium Powder or Dust, Plants Producing or Handling Plastics Industry Fuel Systems, Pulverized Codes for the Prevention of Dust Explosions (included with five codes approved earlier) The present volume incorporating new and revised codes supersedes the similar volume issued in 1944.	1.50
.....	Z21.3a-1946	**Hotel and Restaurant Ranges and Unit Broilers, Approval Requirements for, Addenda to Z21.3-1940**	.40
.....	Z21.27a-1946	**Hotel and Restaurant Deep Fat Fryers, Approval Requirements for, Addenda to Z21.27-1940** ..... Hotel and restaurant deep fat fryers, ranges, and unit broilers designated for use at high altitudes must now meet additional performance requirements in order to assure safe and efficient operation.	.40
.....	Z38.4.3-1947	**Distance Scales Marked in Feet for Focusing Camera Lenses** ..... One of a series of American Standards for Photography, this standard covers such subjects as index mark, distance scale markings, and infinity mark.	.15
.....	Z38.8.10/—	**Photographic Laboratory Timers (First Draft)** ..... This is a first draft which is being circulated for trial and criticism. It covers such subjects as time error, resistance to photographic solutions, openings in external surfaces, and visual timers.	.15

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